

=> fil reg

FILE 'REGISTRY' ENTERED AT 16:33:40 ON 04 AUG 2008

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EIC Search

MRY

Property values tagged with IC are from the ZIC/VINITI data file provided by InfoChem.

STRUCTURE FILE UPDATES: 3 AUG 2008 HIGHEST RN 1038266-69-1

DICTIONARY FILE UPDATES: 3 AUG 2008 HIGHEST RN 1038266-69-1

New CAS Information Use Policies, enter HELP USAGETERMS for details.

TSCA INFORMATION NOW CURRENT THROUGH January 9, 2008.

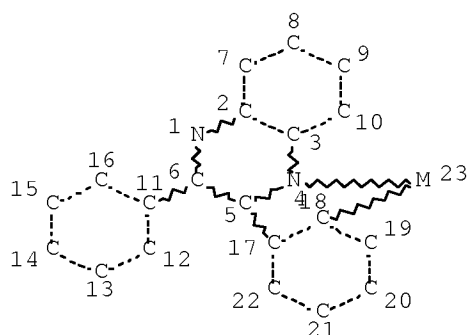
Please note that search-term pricing does apply when conducting SmartSELECT searches.

REGISTRY includes numerically searchable data for experimental and predicted properties as well as tags indicating availability of experimental property data in the original document. For information on property searching in REGISTRY, refer to:

<http://www.cas.org/support/stngen/stdoc/properties.html>

=> d que stat 15

L3 STR



NODE ATTRIBUTES:

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 23

STEREO ATTRIBUTES: NONE

L5 89 SEA FILE=REGISTRY SSS FUL L3

100.0% PROCESSED 10817 ITERATIONS

89 ANSWERS

SEARCH TIME: 00.00.01

August 4, 2008

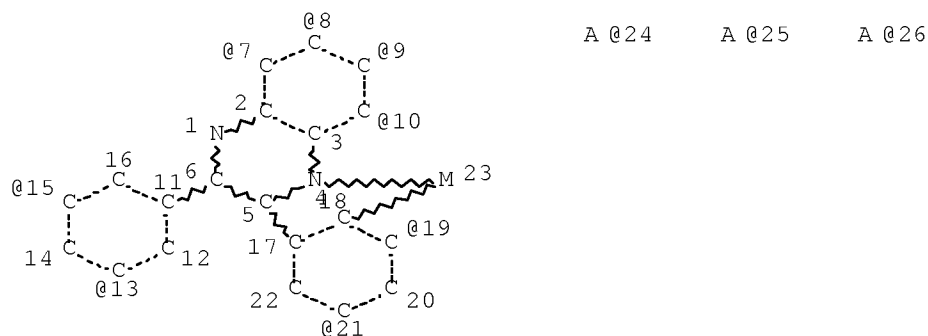
10/590,703

2

=> d 17

L7 HAS NO ANSWERS

L7 STR



VPA 24-7/8/9/10 U

VPA 25-19/21 U

VPA 26-13/15 U

NODE ATTRIBUTES:

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NSPEC IS RC AT 25

NSPEC IS RC AT 26

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

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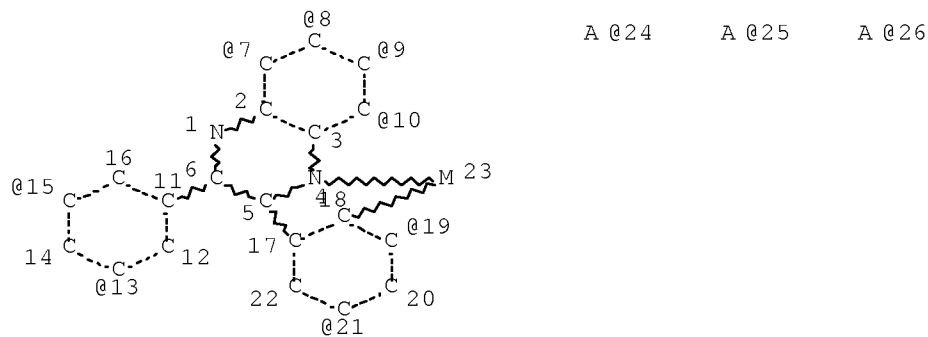
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NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

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L7 STR



VPA 24-7/8/9/10 U

VPA 25-19/21 U

VPA 26-13/15 U

NODE ATTRIBUTES:

NSPEC IS RC AT 24

NSPEC IS RC AT 25

NSPEC IS RC AT 26

DEFAULT MLEVEL IS ATOM

August 4, 2008

10/590,703

3

DEFAULT ECLEVEL IS LIMITED

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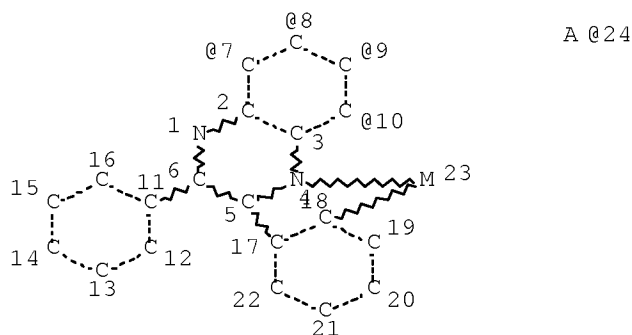
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NUMBER OF NODES IS 26

STEREO ATTRIBUTES: NONE

=> d que stat 19

L9 STR



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NODE ATTRIBUTES:

NSPEC IS RC AT 24

DEFAULT MLEVEL IS ATOM

DEFAULT ECLEVEL IS LIMITED

GRAPH ATTRIBUTES:

RING(S) ARE ISOLATED OR EMBEDDED

NUMBER OF NODES IS 24

STEREO ATTRIBUTES: NONE

=> d his

(FILE 'HOME' ENTERED AT 16:15:14 ON 04 AUG 2008)

FILE 'HCAPLUS' ENTERED AT 16:15:25 ON 04 AUG 2008

E US20070241667/PN

L1 1 S E3

SEL RN

FILE 'REGISTRY' ENTERED AT 16:15:49 ON 04 AUG 2008

L2 26 S E1-26

FILE 'LREGISTRY' ENTERED AT 16:17:12 ON 04 AUG 2008

L3 STR

FILE 'REGISTRY' ENTERED AT 16:20:48 ON 04 AUG 2008

L4 6 S L3

L5 89 S L3 FUL

L6 8 S L2 AND L5

SAV L5 YAM703/A

August 4, 2008

10/590,703

4

FILE 'LREGISTRY' ENTERED AT 16:22:32 ON 04 AUG 2008
L7 STR L3

FILE 'REGISTRY' ENTERED AT 16:29:42 ON 04 AUG 2008
L8 0 S L7 SSS SAM SUB=L5
L9 STR L7
L10 0 S L9 SSS SAM SUB=L5

FILE 'HCAPLUS' ENTERED AT 16:31:06 ON 04 AUG 2008
L11 41 S L5
L12 14 S L11 AND (PY<=2004 OR PRY<=2004 OR AY<=2004)
L13 27 S L11 NOT L12

=> fil hcap

FILE 'HCAPLUS' ENTERED AT 16:34:19 ON 04 AUG 2008
USE IS SUBJECT TO THE TERMS OF YOUR STN CUSTOMER AGREEMENT.
PLEASE SEE "HELP USAGETERMS" FOR DETAILS.
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FILE COVERS 1907 - 4 Aug 2008 VOL 149 ISS 6
FILE LAST UPDATED: 3 Aug 2008 (20080803/ED)

HCAplus now includes complete International Patent Classification (IPC) reclassification data for the second quarter of 2008.

New CAS Information Use Policies, enter HELP USAGETERMS for details.

This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d l12 ibib abs hitstr hitind 1-14

L12 ANSWER 1 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:991036 HCAPLUS Full-text
DOCUMENT NUMBER: 145:497301
TITLE: Organic light emitting diode containing a novel
Ir complex as a red color phosphorescent emitter
INVENTOR(S): Chi, Yun; Chou, Pi-Tai; Kavitha, Jakka; Song,
Yi-Hwa; Chen, Hsing-Yi
PATENT ASSIGNEE(S): National Tsing Hua University, Taiwan
SOURCE: Taiwan., 4pp.
CODEN: TWXXA5
DOCUMENT TYPE: Patent
LANGUAGE: Chinese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

August 4, 2008

10/590,703

5

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
TW 231157	B	20050411	TW 2004-93117691	20040618

PRIORITY APPLN. INFO.:

TW 2004-93117691

20040618

AB This invention provides a systematic method for syntheses of new electroluminescent iridium metal complexes by introducing chelating ligands such as quinoxaline, quinazoline, and pyrimidine. For utilization of quinoxaline, quinazoline or pyrimidine ligands, the strategy of substituting the carbon atom with the highly electroneg. nitrogen atom or extending the delocalization of pi electrons on the chelating aromatic chromophores can not only enhance the rigidity of the ligands and suppress the non-radiative decay, but also alter the electronic structures of the coordinating ligands. As a result, the energy gaps between the HOMO and LUMO orbitals, i.e. the energy gaps of IL (p_{ip}i*) or MLCT transitions are significantly reduced, shifting the emission wavelengths to the region of saturated red color. These phosphorescent complexes can be used as the emitting or emitter dopant materials to fabricate the high efficiency OLEDs for various types of future, flat panel display applications.

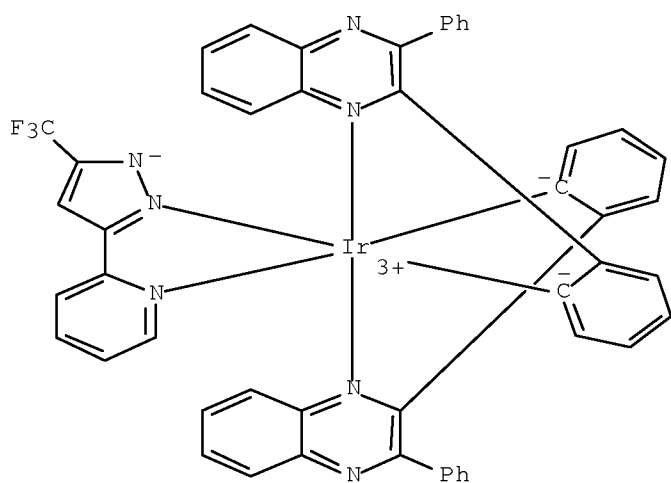
IT 848889-89-4 848889-92-9 848889-94-1
848889-96-3

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(organic light emitting diode containing novel Ir complex as red color phosphorescent emitter)

RN 848889-89-4 HCAPLUS

CN Iridium, bis[2-(3-phenyl-2-quinoxaliny1-κN1)phenyl-κC][2-[5-(trifluoromethyl)-1H-pyrazol-3-yl-κN2]pyridinato-κN]-, (OC-6-14)- (CA INDEX NAME)



RN 848889-92-9 HCAPLUS

CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny1-

$\kappa N1$]phenyl- κC] [2-[5-(trifluoromethyl)-1H-pyrazol-3-yl- $\kappa N2$]pyridinato- κN]-, (OC-6-14)- (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 848889-94-1 HCAPLUS

CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny- $\kappa N1$]phenyl- κC] [2-[5-(trifluoromethyl)-1H-1,2,4-triazol-3-yl- $\kappa N2$]pyridinato- κN]-, (OC-6-14)- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

RN 848889-96-3 HCAPLUS

CN Iridium, [2-[3-(1,1-dimethylethyl)-1H-pyrazol-5-yl- $\kappa N1$]pyridinato- κN]bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny- $\kappa N1$]phenyl- κC]-, (OC-6-14)- (9CI) (CA INDEX NAME)

*** STRUCTURE DIAGRAM IS NOT AVAILABLE ***

IC ICM H05B033-14

ICS C09K011-00

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)

IT ~~848889-89-4~~ ~~848889-92-9~~ ~~848889-94-1~~

~~848889-96-3~~ 866941-02-8 866941-03-9 866941-05-1

914771-93-0

RL: DEV (Device component use); TEM (Technical or engineered material use); USES (Uses)

(organic light emitting diode containing novel Ir complex as red color phosphorescent emitter)

L12 ANSWER 2 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:579425 HCAPLUS Full-text

DOCUMENT NUMBER: 145:249355

TITLE: Organometallic complexes as electroluminescent devices and light-emitting components

INVENTOR(S): Inoue, Eiko; Shimogaki, Tomoko; Seo, Tetsuji

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan

SOURCE: Faming Zhuanli Shenqing Gongkai Shuomingshu, 55 pp.

CODEN: CNXXEV

DOCUMENT TYPE: Patent

LANGUAGE: Chinese

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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CN 1781912	A	20060607	CN 2005-10128999	20051205
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US 20060159955	A1	20060720	US 2005-274327	20051116
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JP 2006182775	A	20060713	JP 2005-348632	20051202

August 4, 2008

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7

PRIORITY APPLN. INFO.:

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JP 2004-352077

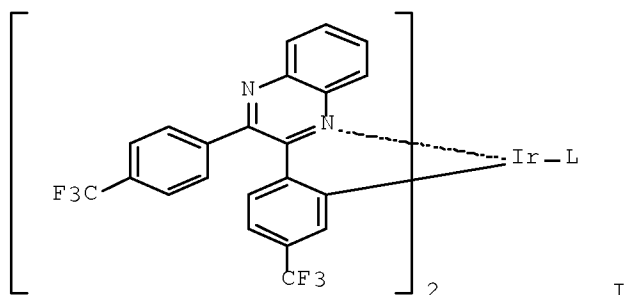
A

200412
03

OTHER SOURCE(S):
GI

MARPAT 145:249355

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AB This invention relates to an organometallic complex as shown in formula I, where L is single anion ligand containing β -diketone structure, single anion bidentate chelate complex containing carboxy, or single anion bidentate chelating ligands. This invention also relates to electroluminescent devices comprises the mentioned organometallic complexes, a light-emitting component layers, light-emitting substance and sensitizer of fluorescent compound

IT 906369-47-9P 906369-49-1P

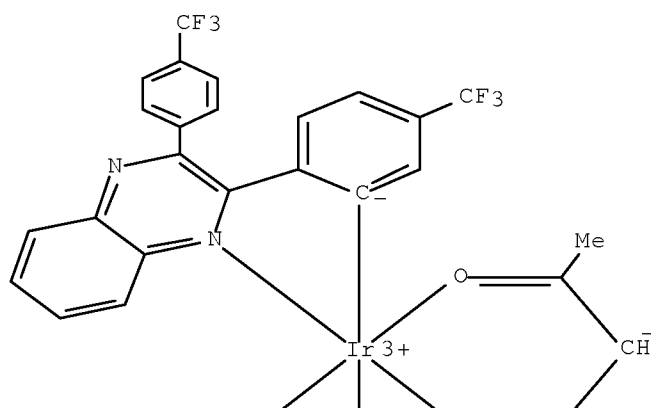
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(preparation of organoiridium complexes as electroluminescent device and phosphorescent light emitting component)

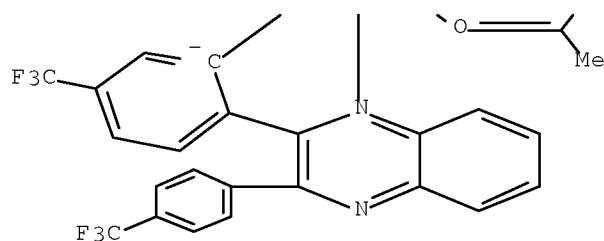
RN 906369-47-9 HCAPLUS

CN Iridium, (2,4-pentanedionato- κ O2, κ O4)bis[5-(trifluoromethyl)-2-[3-[4-(trifluoromethyl)phenyl]-2-quinoxaliny]- κ N1]phenyl- κ C]- (CA INDEX NAME)

PAGE 1-A

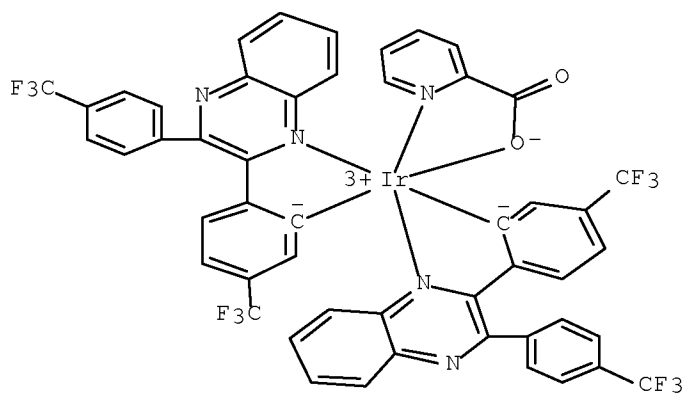


PAGE 2-A



RN 906369-49-1 HCAPLUS

CN Iridium, (2-pyridinecarboxylato-κN1,κO2)bis[5-(trifluoromethyl)-2-[3-[4-(trifluoromethyl)phenyl]-2-quinoxalinylnyl-κN1]phenyl-κC]- (9CI) (CA INDEX NAME)



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IT 906369-48-0P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(reactant for preparation of organoiridium complexes as
electroluminescent device and phosphorescent light emitting
component)

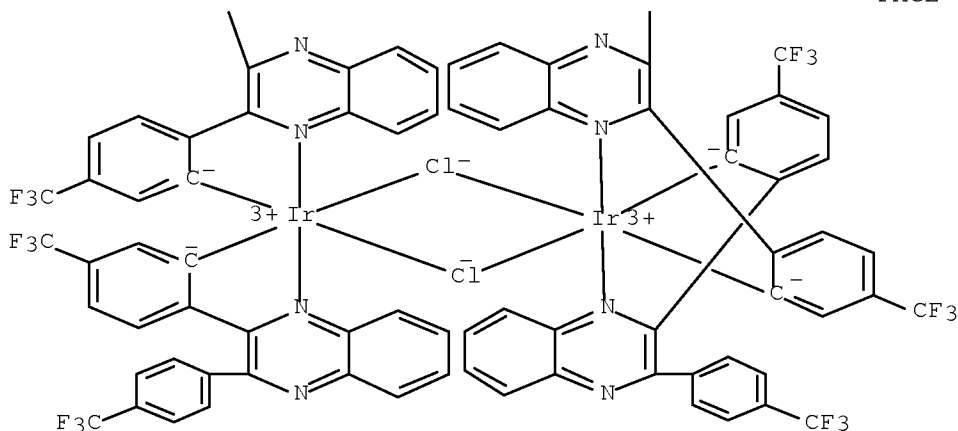
RN 906369-48-0 HCAPLUS

CN Iridium, di- μ -chlorotetrakis[5-(trifluoromethyl)-2-[3-[4-(trifluoromethyl)phenyl]-2-quinoxaliny]- κ N1]phenyl- κ C]di-
(9CI) (CA INDEX NAME)

PAGE 1-A



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CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 73

IT 906369-47-9P 906369-49-1P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic
preparation); PREP (Preparation)

(preparation of organoiridium complexes as electroluminescent device and phosphorescent light emitting component)

IT 73790-20-2P 906369-46-8P ~~906369-48-0P~~

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(reactant for preparation of organoiridium complexes as electroluminescent device and phosphorescent light emitting component)

L12 ANSWER 3 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2006:578149 HCAPLUS Full-text

DOCUMENT NUMBER: 145:46196

TITLE: Organometallic complex, and light-emitting element and light-emitting device using the same

INVENTOR(S): Inoue, Hideko; Shitagaki, Satoko; Seo, Satoshi

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan

SOURCE: PCT Int. Appl., 84 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2006062144	A1	20060615	WO 2005-JP22507	20051201

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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KM, KN, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, LY, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NG, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SM, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW

RW: AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, LV, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG, BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

JP 2006188491	A	20060720	JP 2005-348466	20051201
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US 20080113216	A1	20080515	US 2007-792424	20070606
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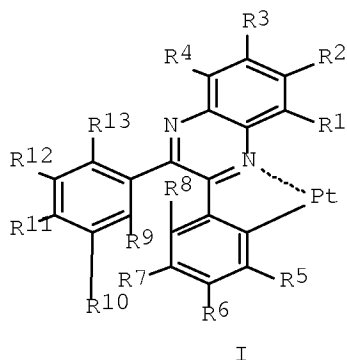
PRIORITY APPLN. INFO.:	JP 2004-353587	A	20041207
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WO 2005-JP22507	W	20051201
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OTHER SOURCE(S): CASREACT 145:46196; MARPAT 145:46196

GI



AB It is an object of the present invention to provide a substance capable of emitting phosphorescence. In addition, it is an object of the present invention to provide a light-emitting element that is excellent in chromaticity. One aspect of the present invention is preparation of organometallic complex I (R1-R4 = H, halo, acyl, alkyl, alkoxyl, aryl, cyano, heterocyclic; R5-R13 = H, acyl, alkyl, alkoxyl, aryl, heterocyclic, electron-withdrawing group). Thus, reaction of 2,3-bis(4-fluorophenyl)quinoxaline (preparation given) with K₂[PtCl₄] in refluxing 2-ethoxyethanol/H₂O followed by treatment with acetylacetone gave title compound, (acetylacetonato)[2,3-bis(4-fluorophenyl)quinoxalinato]platinum(II). An organometallic complex having such a structure can emit phosphorescence with higher emission intensity.

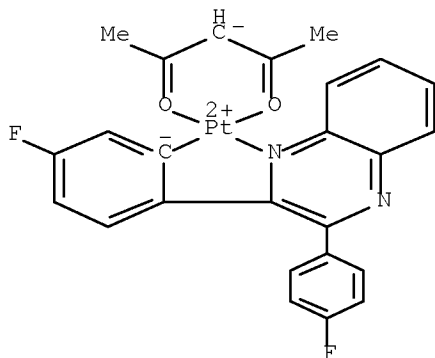
IT 889869-73-2P 889869-74-3P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)

(preparation of cyclopatinated fluorophenyl quinoxaline organometallic complex and their use as light-emitting element and light-emitting device)

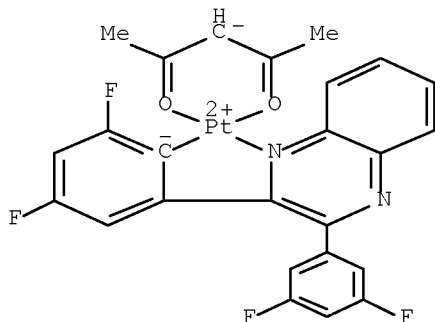
RN 889869-73-2 HCAPLUS

CN Platinum, [5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny]-κN1]phenyl-κC] (2,4-pentanedionato-κO,κO')-, (SP-4-3)- (9CI) (CA INDEX NAME)



RN 889869-74-3 HCAPLUS

CN Platinum, [2-[3-(3,5-difluorophenyl)-2-quinoxalinyln-κN1]-4,6-difluorophenyl-κC](2,4-pentanedionato-κO,κO')-, (SP-4-3)- (9CI) (CA INDEX NAME)



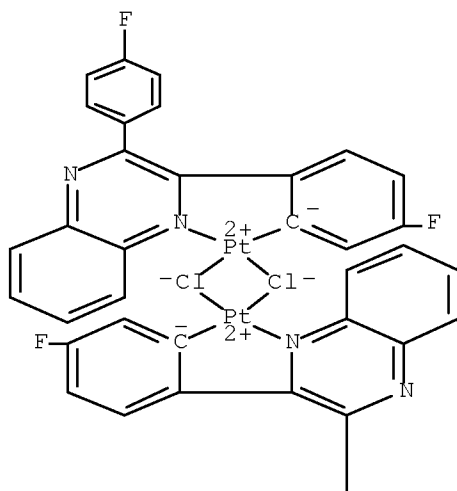
IT 889869-72-1P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation of cycloplatinated fluorophenyl quinoxaline organometallic complex and their use as light-emitting element and light-emitting device)

RN 889869-72-1 HCAPLUS

CN Platinum, di-μ-chlorobis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxalinyln-κN1]phenyl-κC]di- (9CI) (CA INDEX NAME)

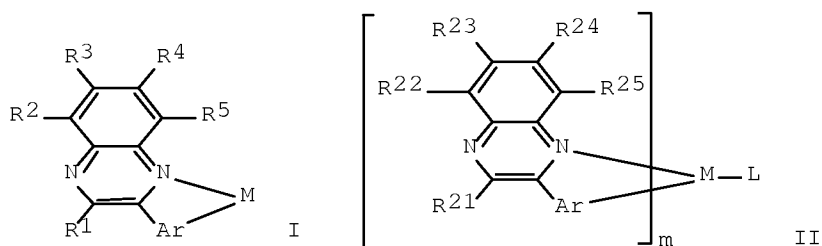


PAGE 1-A

L12 ANSWER 4 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2006:564313 HCAPLUS Full-text
DOCUMENT NUMBER: 145:53427
TITLE: Group 9 or 10 metal complexes,
electroluminescent devices having layer
containing them, and use of the devices
INVENTOR(S): Inoue, Eiko; Seo, Satoshi; Shimogaki, Tomoko;
Abe, Hiroko
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 67 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2006151887	A	20060615	JP 2004-346234	20041130
			<--	
PRIORITY APPLN. INFO.:			JP 2004-346234	20041130
			<--	
OTHER SOURCE(S):	MARPAT 145:53427			
GI				



AB The complexes are represented by I (R1-R5 = H, halo, acyl, alkyl, alkoxy, aryl, cyano, heterocyclyl; Ar = aryl, heterocyclyl; M = group 9 or 10 element) or II (R21-R25 = any group given for R1-R5; Ar, M = same as above; n = 1 when M = group 10 element or 2 when M = group 9 element; L = monoanionic ligand having β -diketone structure, monoanionic bidentate ligand containing carboxy group or phenolic OH). Also claimed are electroluminescent apparatus having the electroluminescent devices and electronic instruments having the apparatus in the display. I or II emit phosphorescence and are also useful as sensitizers for fluorescent compds.

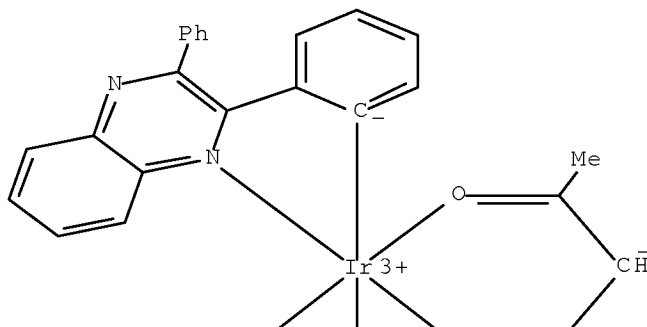
IT 848127-98-0P 853994-39-5P 870245-89-9P
870245-91-3P 870245-92-4P

RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of group 9 or 10 metal arylquinoxaline complexes emitting phosphorescence and electroluminescent devices using them)

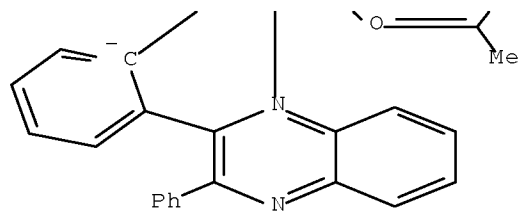
RN 848127-98-0 HCAPLUS

CN Iridium, (2,4-pentanedionato- $\kappa O, \kappa O'$)bis[2-(3-phenyl-2-quinoxaliny)-phenyl- κC]- (9CI) (CA INDEX NAME)

PAGE 1-A



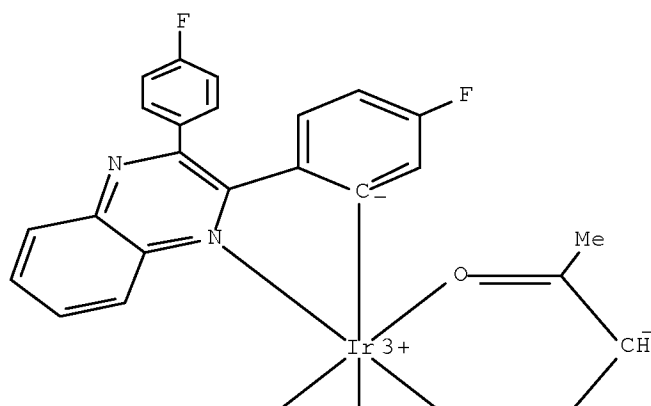
PAGE 2-A



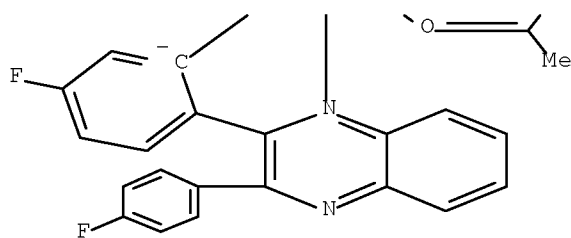
RN 853994-39-5 HCAPLUS

CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny]phenyl- κ C](2,4-pentanedionato- κ O2, κ O4)-
(CA INDEX NAME)

PAGE 1-A

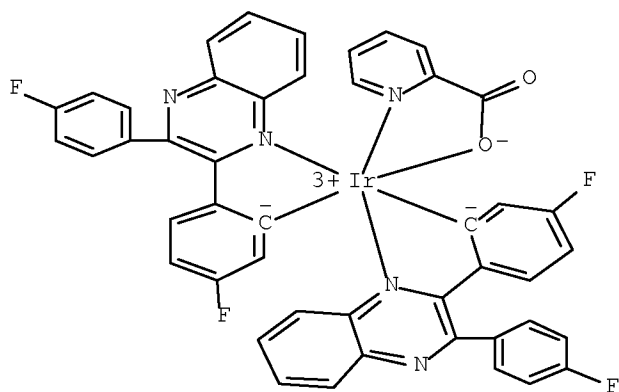


PAGE 2-A



RN 870245-89-9 HCAPLUS

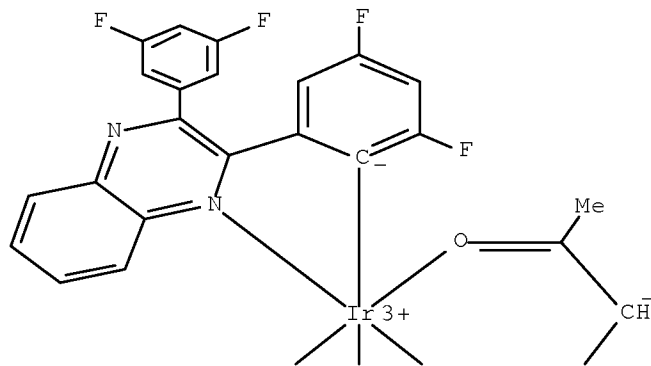
CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny]phenyl- κ C](2-pyridinecarboxylato-
 κ N1, κ O2)- (9CI) (CA INDEX NAME)



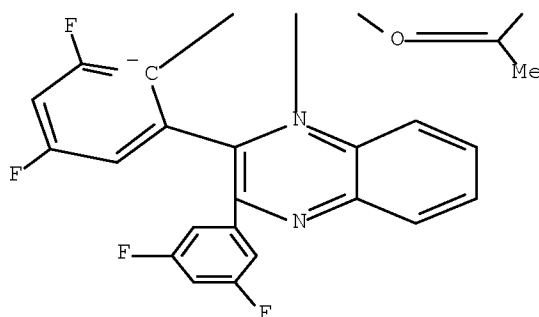
RN 870245-91-3 HCAPLUS

CN Iridium, bis[2-[3-(3,5-difluorophenyl)-2-quinoxalinylnyl-κN1]-4,6-difluorophenyl-κC](2,4-pentanedionato-κO,κO')-(9CI) (CA INDEX NAME)

PAGE 1-A

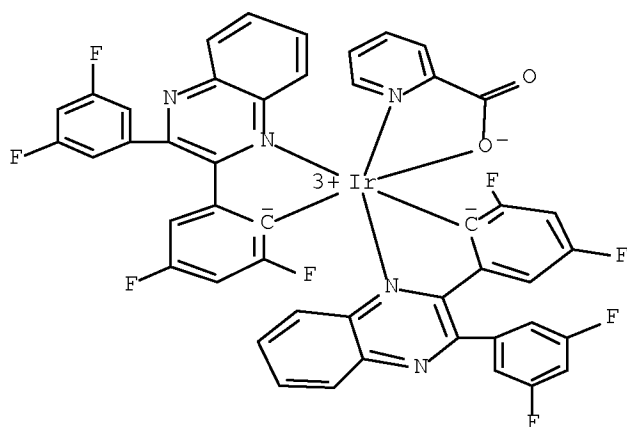


PAGE 2-A



RN 870245-92-4 HCAPLUS

CN Iridium, bis[2-[3-(3,5-difluorophenyl)-2-quinoxaliny]-4,6-difluorophenyl-κC](2-pyridinecarboxylato-κN1,κO2)-(9CI) (CA INDEX NAME)



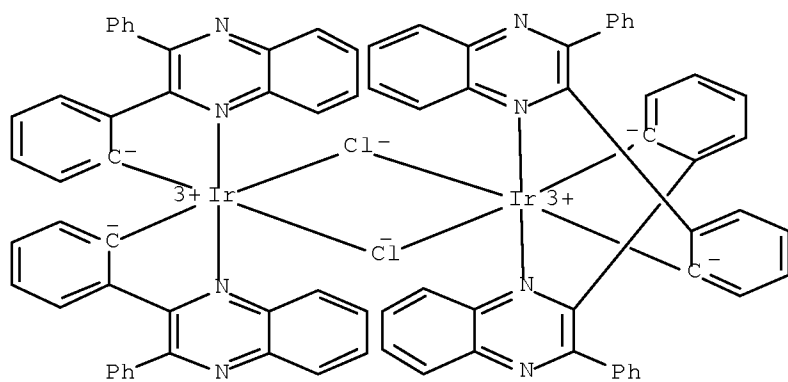
IT 848127-97-9P 848889-99-6P 870245-90-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)

(preparation of group 9 or 10 metal arylquinoxaline complexes emitting
 phosphorescence and electroluminescent devices using them)

RN 848127-97-9 HCAPLUS

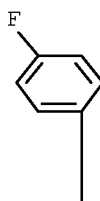
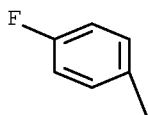
CN Iridium, di-μ-chlorotetrakis[2-(3-phenyl-2-quinoxaliny)-κN1]phenyl-κC]di- (CA INDEX NAME)



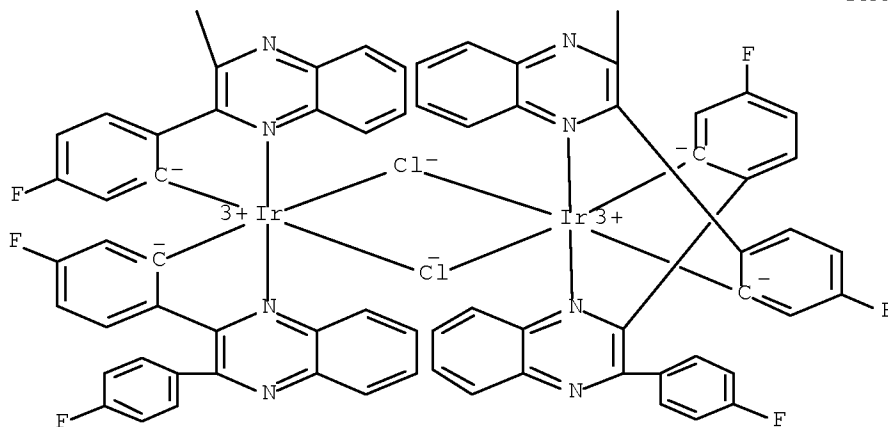
RN 848889-99-6 HCAPLUS

CN Iridium, di-μ-chlorotetrakis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxalinylnyl-κN1]phenyl-κC]di- (CA INDEX NAME)

PAGE 1-A



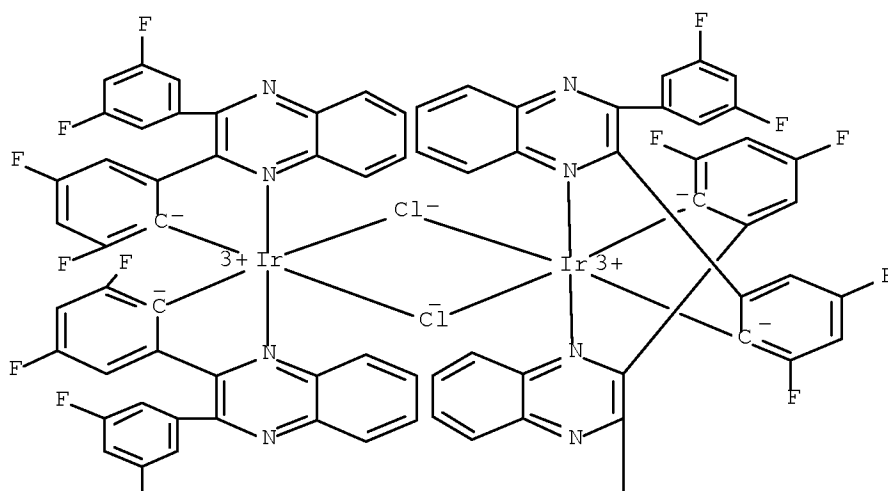
PAGE 2-A



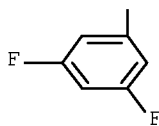
RN 870245-90-2 HCAPLUS

CN Iridium, di- μ -chlorotetrakis[2-[3-(3,5-difluorophenyl)-2-quinoxalinylnyl- κ N1]-4,6-difluorophenyl- κ C]di- (9CI) (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



CC 74-13 (Radiation Chemistry, Photochemistry, and Photographic and Other Reprographic Processes)

Section cross-reference(s): 29

IT 848127-98-0P 853994-39-5P 870245-89-9P
870245-91-3P 870245-92-4P

RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(preparation of group 9 or 10 metal arylquinoxaline complexes emitting phosphorescence and electroluminescent devices using them)

IT 19802-70-1P 148186-43-0P, 2,3-Bis(4-fluorophenyl)quinoxaline
223707-22-0P 787640-67-9P 848127-97-9P
848889-99-6P 870136-70-2P 870245-90-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(preparation of group 9 or 10 metal arylquinoxaline complexes emitting phosphorescence and electroluminescent devices using them)

L12 ANSWER 5 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:1262621 HCAPLUS Full-text

DOCUMENT NUMBER: 144:29490

TITLE: Light emitting element and light emitting device

INVENTOR(S): Ohsawa, Nobuharu; Abe, Hiroko; Inoue, Hideko;
Shitagaki, Satoko; Seo, Satoshi

PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan

SOURCE: PCT Int. Appl., 196 pp.

CODEN: PIXXD2

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
WO 2005115061	A1	20051201	WO 2005-JP9310	20050517

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RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG

EP 1749424	A1	20070207	EP 2005-740951	20050517
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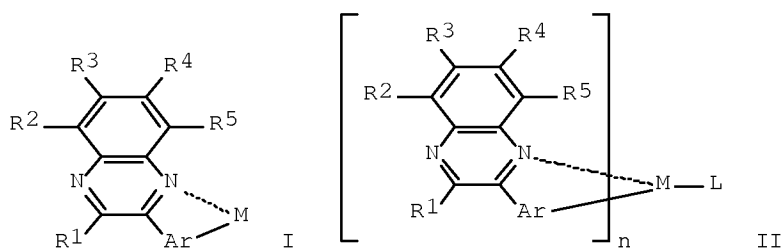
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CN 1957645	A	20070502	CN 2005-80016049	20050517

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JP 2006073992	A	20060316	JP 2005-147413	20050519
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US 20070241667	A1	20071018	US 2006-590703	20060825
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KR 2007015605	A	20070205	KR 2006-725371	20061201
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JP 2007314541	A	20071206	JP 2007-146489	20070601
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PRIORITY APPLN. INFO.:			JP 2004-151035	A 20040520
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			JP 2004-226382	A 20040803
			<--	
			JP 2004-231742	A 20040806
			<--	
			WO 2005-JP9310	W 20050517
			JP 2005-147413	A3 20050519

OTHER SOURCE(S): MARPAT 144:29490
GI



AB Light-emitting elements comprising a pair of electrodes (an anode and a cathode) with a light-emitting layer between them are described in which the light-emitting layer includes an organometallic complex described by the general formulas I or II (R¹-5 = H, halo, acyl, alkyl, alkoxyl, aryl, cyano, and/or heterocyclic groups; Ar = an aryl group having an electron-withdrawing group or a heterocyclic group having an electron-withdrawing group; M = a Group 9 or Group 10 element; n = 2 if M = Group 9 element; n = 1 if M = Group 10 element; and L = anionic ligand) and a compound that has a larger energy gap than the organometallic complex or a compound that has a larger ionization

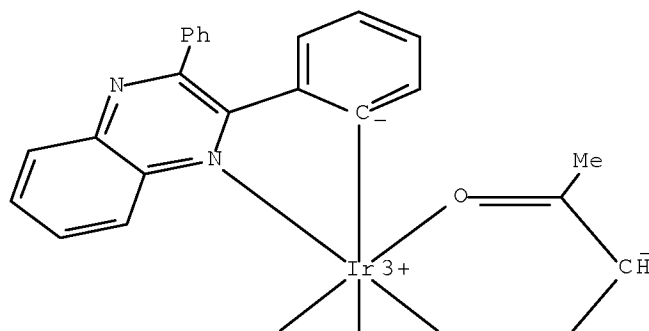
potential and a smaller electron affinity than the organometallic complex.
 Light-emitting devices using the light-emitting elements are also described.

IT 848127-98-0P 853994-39-5P 870245-89-9P
 870245-91-3P 870245-92-4P

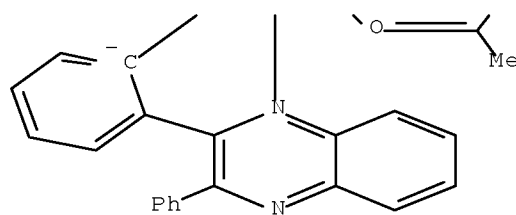
RL: DEV (Device component use); MOA (Modifier or additive use); SPN
 (Synthetic preparation); PREP (Preparation); USES (Uses)
 (light-emitting elements employing organometallic compds.)

RN 848127-98-0 HCAPLUS

CN Iridium, (2,4-pentanedionato- $\kappa O, \kappa O'$)bis[2-(3-phenyl-2-
 quinoxaliny-1-yl)phenyl- κC]- (9CI) (CA INDEX NAME)



PAGE 1-A

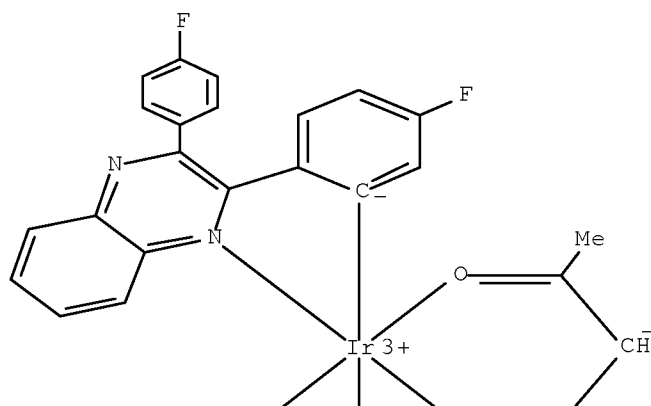


PAGE 2-A

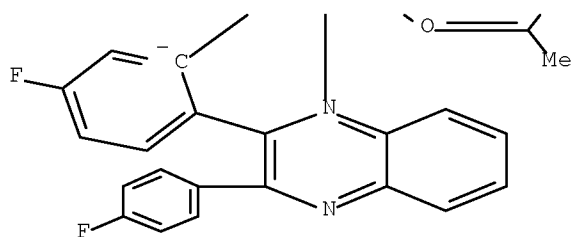
RN 853994-39-5 HCAPLUS

CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny-
 $\kappa N1$]phenyl- κC](2,4-pentanedionato- $\kappa O2, \kappa O4$)-
 (CA INDEX NAME)

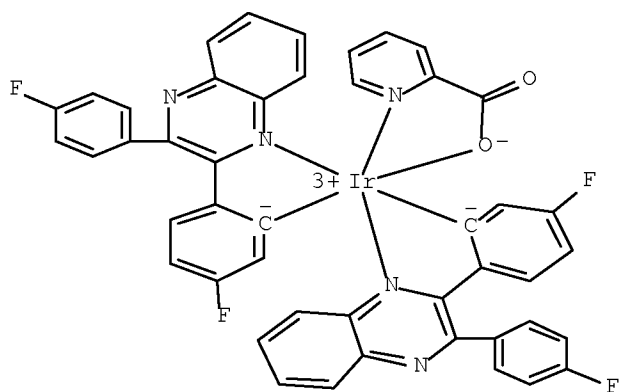
PAGE 1-A



PAGE 2-A



RN 870245-89-9 HCAPLUS
 CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxaliny-
 κN1]phenyl-κC](2-pyridinecarboxylato-
 κN1,κO2)- (9CI) (CA INDEX NAME)



August 4, 2008

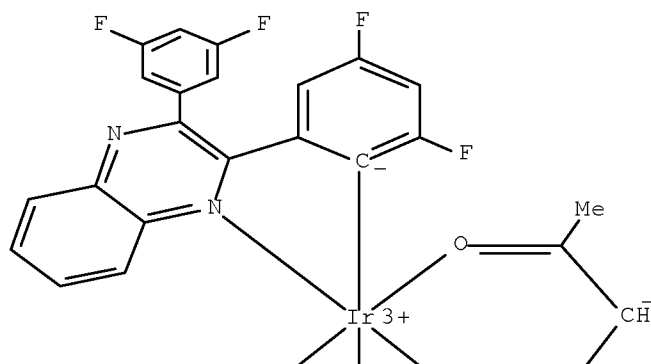
10/590,703

24

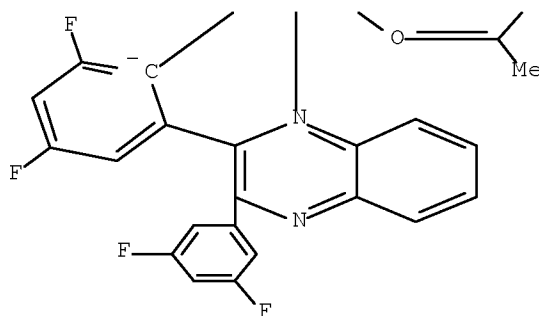
RN 870245-91-3 HCAPLUS

CN Iridium, bis[2-[3-(3,5-difluorophenyl)-2-quinoxaliny1-κN1]-4,6-difluorophenyl-κC] (2,4-pentanedionato-κO,κO')-(9CI) (CA INDEX NAME)

PAGE 1-A

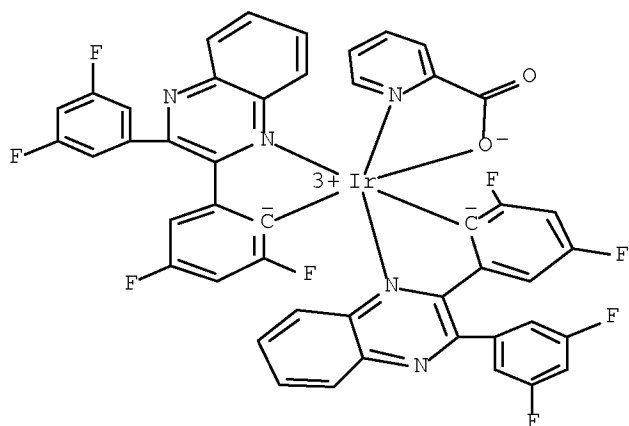


PAGE 2-A

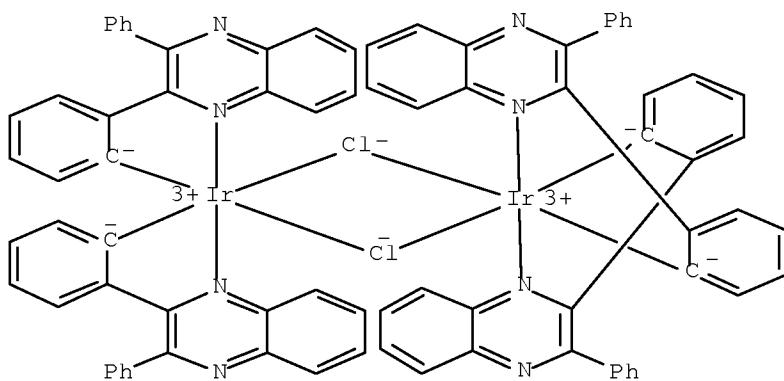


RN 870245-92-4 HCAPLUS

CN Iridium, bis[2-[3-(3,5-difluorophenyl)-2-quinoxaliny1-κN1]-4,6-difluorophenyl-κC] (2-pyridinecarboxylato-κN1,κO2)-(9CI) (CA INDEX NAME)



IT 848127-97-9P 848889-99-6P 870245-90-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (light-emitting elements employing organometallic compds.)
 RN 848127-97-9 HCAPLUS
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 κN1]phenyl-κC]di- (CA INDEX NAME)

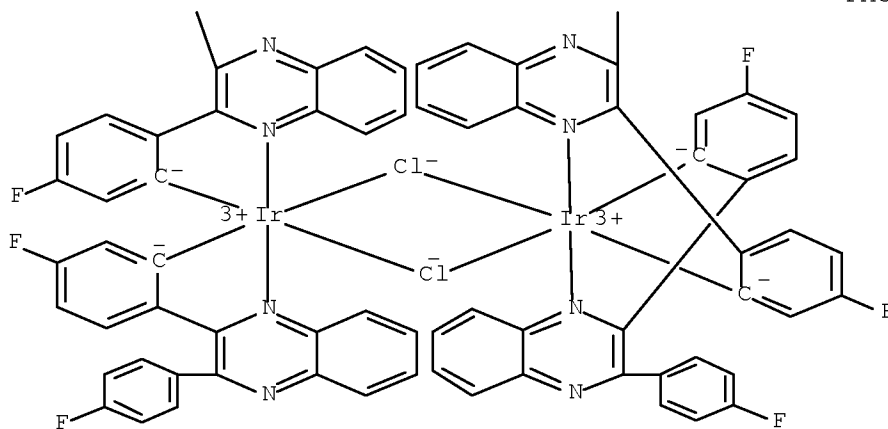


RN 848889-99-6 HCAPLUS
 CN Iridium, di-μ-chlorotetrakis[5-fluoro-2-[3-(4-fluorophenyl)-2-
 quinoxalinyloxy]-κN1]phenyl-κC]di- (CA INDEX NAME)

PAGE 1-A



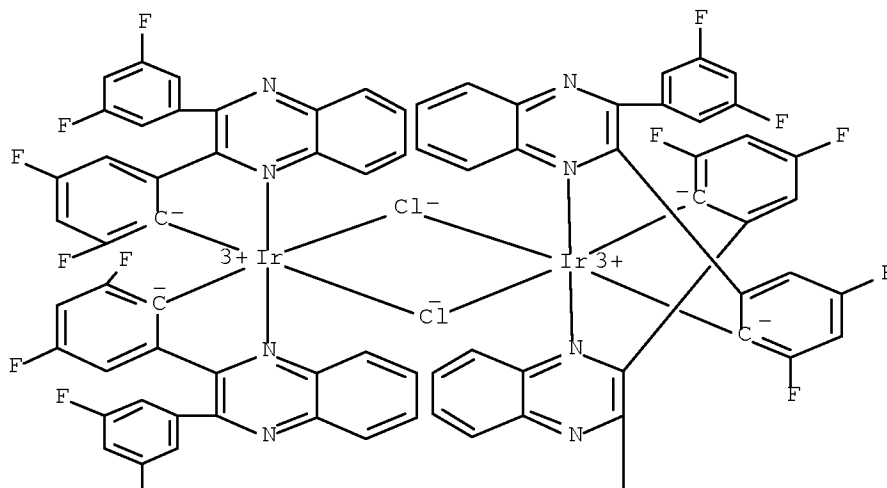
PAGE 2-A



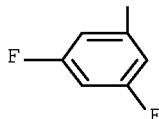
RN 870245-90-2 HCAPLUS

CN Iridium, di- μ -chlorotetrakis[2-[3-(3,5-difluorophenyl)-2-quinoxalinylnyl- κ N1]-4,6-difluorophenyl- κ C]di- (9CI) (CA INDEX NAME)

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PAGE 2-A



IC ICM H05B033-14
ICS C09K011-06

CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29, 76

IT 848127-98-0P 853994-39-5P 870245-89-9P
870245-91-3P 870245-92-4P
RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(light-emitting elements employing organometallic compds.)

IT 19802-70-1P 148186-43-0P, 2,3-Bis(4-fluorophenyl)quinoxaline
223707-22-0P 848127-97-9P 848889-99-6P
870136-70-2P 870245-90-2P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)
(light-emitting elements employing organometallic compds.)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 6 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:1149648 HCAPLUS Full-text
DOCUMENT NUMBER: 143:422468
TITLE: Preparation of N-containing heterocycle-di(2-pyridyl)amine-iridium complexes and luminescent materials using them
INVENTOR(S): Konno, Hideo

August 4, 2008

10/590,703

28

PATENT ASSIGNEE(S): National Institute of Advanced Industrial
Science & Technology, Japan
SOURCE: Jpn. Kokai Tokkyo Koho, 30 pp.
CODEN: JKXXAF
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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JP 2005298483	A	20051027	JP 2005-61293	200503 04

PRIORITY APPLN. INFO.: <-- JP 2004-76281 A 200403
17

OTHER SOURCE(S): MARPAT 143:422468
GI

* STRUCTURE DIAGRAM TOO LARGE FOR DISPLAY - AVAILABLE VIA OFFLINE PRINT *

AB The title iridium complexes (I) [n = 0, 1; X1 = H, (un)substituted aryl, N-containing heterocyclyl; Z1, Z2, Y1, Q1 = a group of atoms necessary to form optionally substituted 5- or 6-membered ring optionally condensed to another ring; L1 = a single bond, a divalent group; Y1 = N or C atom; when Y1 is C atom, Q1 and Y1 are bonded to each other through a double bond; R1-R8 = H, substituent] are prepared by reaction of di(2-pyridyl)amine ligand (II) (R1-R8, n, X1 = same as above) with iridium chloride binuclear complexes (III) [Z3-Z6, Y2, Y3, Q2, Q3 = a group of atoms necessary to form optionally substituted 5- or 6-membered ring optionally condensed to another ring; L2, L3 = a single bond, a divalent group; when Y2 and Y3 are C atoms, the bond between C atom and Q3 and one between Q2 and Y2 are double bonds] under microwave irradiation. These iridium complexes provide luminescent materials for luminescent devices with high brightness, high efficiency, and durability, materials for organic electroluminescent devices and electro-chemiluminescence (ECL) devices, luminescent sensors, photosensitizers, displays, fluorescent brighteners, photograph. materials, laser dyes, color filter dyes, optical communication, color conversion filter, back light, illumination, photosensitizing dyes, or various light sources. Thus, 200 mg bridged dimer (IV), 79 mg di(2-pyridyl)amine, and 25 mL 2-ethoxyethanol were added to a flask, irradiated in a microwave apparatus (Hitachi MR250) at 2,450 MHz for 15 min, cooled to room temperature, evaporated under reduced pressure to give a yellow solid which was dissolved in a mixture of ethanol and water, treated dropwise with a saturated aqueous solution of NH4PF6 to give, a yellow solid. The solid was recrystd. from CH2Cl2-hexane to give (2-phenylpyridine)[di(2-pyridyl)amine]iridium complex (V). A solution of V in THF showed strong green luminescence at λ_{\max} of 482 and 512 nm.

IT 868131-65-1F

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)

(preparation of N-containing heterocycle-di(2-pyridyl)amine-iridium complexes as luminescent materials)

August 4, 2008

10/590,703

29

RN 868131-65-1 HCAPLUS

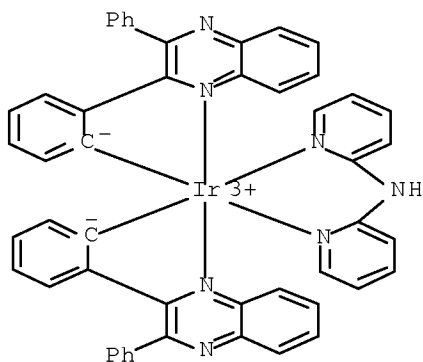
CN Iridium(1+), bis[2-(3-phenyl-2-quinoxaliny1-κN1)phenyl-κC][N-2-pyridinyl-2-pyridinamine-κN]-, hexafluorophosphate(1-) (9CI) (CA INDEX NAME)

CM 1

CRN 868131-64-0

CMF C50 H35 Ir N7

CCI CCS

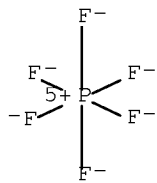


CM 2

CRN 16919-18-9

CMF F6 P

CCI CCS



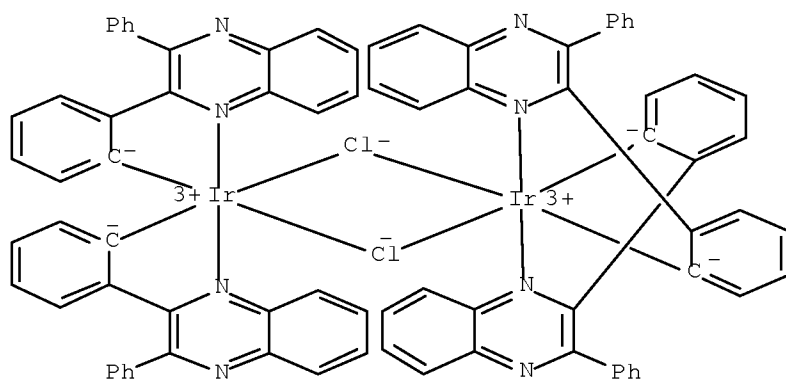
IT 848127-97-9

RL: RCT (Reactant); RACT (Reactant or reagent)

(preparation of N-containing heterocycle-di(2-pyridyl)amine-iridium complexes as luminescent materials)

RN 848127-97-9 HCAPLUS

CN Iridium, di-μ-chlorotetrakis[2-(3-phenyl-2-quinoxaliny1-κN1)phenyl-κC]di- (CA INDEX NAME)



IC ICM C07F015-00
ICS C09K011-06; H05B033-14

CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 76

IT 868131-25-3P 868131-27-5P 868131-29-7P 868131-31-1P
868131-33-3P 868131-35-5P 868131-37-7P 868131-39-9P
868131-41-3P 868131-43-5P 868131-45-7P 868131-47-9P
868131-49-1P 868131-51-5P 868131-53-7P 868131-54-8P
868131-56-0P 868131-58-2P 868131-59-3P 868131-61-7P
868131-63-9P ~~868131-65-1P~~ 868131-67-3P 868131-69-5P
868131-71-9P 868131-73-1P 868131-75-3P

RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); TEM (Technical or engineered material use); PREP (Preparation); USES (Uses)
(preparation of N-containing heterocycle-di(2-pyridyl)amine-iridium complexes as luminescent materials)

IT 1202-34-2, Di(2-pyridyl)amine 6654-69-9, Bis(3-methyl-2-pyridyl)amine 10428-50-9, Tri(2-pyridyl)amine 14192-97-3, N,N-Di(2-pyridyl)phenylamine 57175-14-1 343978-72-3
391611-77-1 417705-49-8 435294-69-2 603109-48-4 632326-35-3
632327-35-6 632327-36-7 632327-37-8 760997-15-7 760997-17-9
~~848127-97-9~~ 852609-81-5 861348-71-2,
N,N-Di(2-pyridyl)(2-hydroxyphenyl)amine 868131-76-4 868131-77-5
868131-78-6 868131-79-7 868131-80-0 868131-81-1 868131-82-2

RL: RCT (Reactant); RACT (Reactant or reagent)
(preparation of N-containing heterocycle-di(2-pyridyl)amine-iridium complexes as luminescent materials)

L12 ANSWER 7 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2005:963628 HCAPLUS Full-text

DOCUMENT NUMBER: 143:275296

TITLE: Organometallic compound containing quinoxaline structure and light emitting element

INVENTOR(S): Fujii, Hiroyuki; Hirao, Toshikazu; Sakurai, Hidehiro; Mao, Lisheng; Tani, Kazuyasu

PATENT ASSIGNEE(S): Japan

SOURCE: U.S. Pat. Appl. Publ., 19 pp.
CODEN: USXXCO

DOCUMENT TYPE: Patent

LANGUAGE: English

FAMILY ACC. NUM. COUNT: 1

PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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US 20050191527

A1

20050901

US 2005-64123

200502
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JP 2005239648

A

20050908

JP 2004-52742

200402
27

PRIORITY APPLN. INFO.:

JP 2004-52742

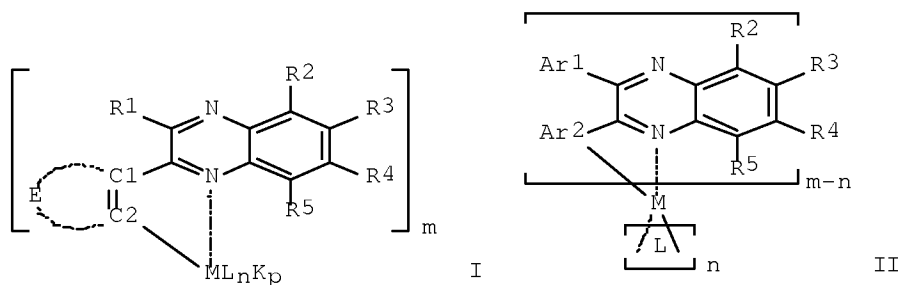
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200402
27

OTHER SOURCE(S):

MARPAT 143:275296

GI



AB Organometallic compds. comprising a quinoxaline structure are described by the general formula I and II (M = a monovalent to trivalent metal; L and K = ligands; E = a cyclic structure, R1-5 = independently selected H or arbitrary substituents; Ar1-2 = independently selected (un)substituted aryl groups; m = 1-3; n = 0-3; n' = 0-2; p = 0-2; m + n + p = 2-5; and m - n' = 1-3). Light-emitting devices are also described which employ the compds.

IT 848127-98-0P 853994-39-5P

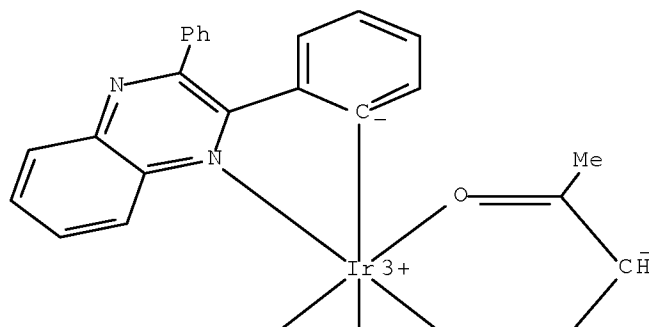
RL: DEV (Device component use); MOA (Modifier or additive use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)

(organometallic compds. containing quinoxaline structures and light-emitting elements using them)

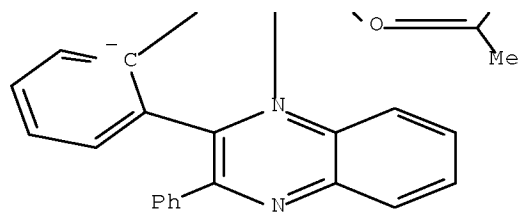
RN 848127-98-0 HCAPLUS

CN Iridium, (2,4-pentanedionato-κO,κO')bis[2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-A

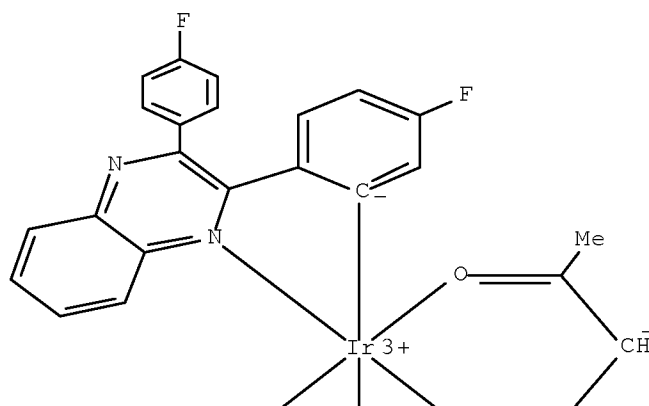


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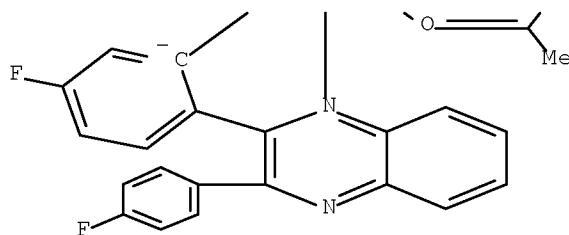


RN 853994-39-5 HCAPLUS
 CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxalinylnyl-
 κN1]phenyl-κC] (2,4-pentanedionato-κO2,κO4)-
 (CA INDEX NAME)

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PAGE 2-A



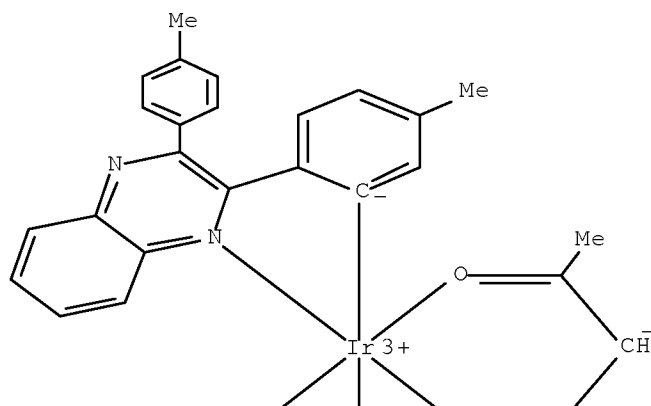
IT 863714-58-3P 863714-60-7P 863714-61-8P
863714-62-9P

RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(organometallic compds. containing quinoxaline structures and light-emitting elements using them)

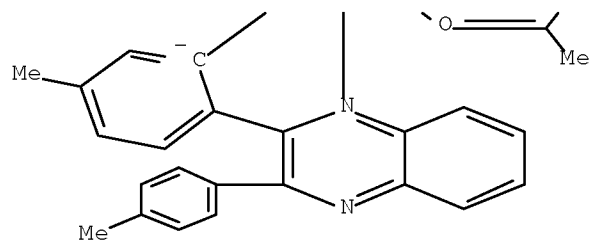
RN 863714-58-3 HCAPLUS

CN Iridium, bis[5-methyl-2-[3-(4-methylphenyl)-2-quinoxalinylnyl-κN1]phenyl-κC](2,4-pentanedionato-κO,κO')-(9CI) (CA INDEX NAME)

PAGE 1-A

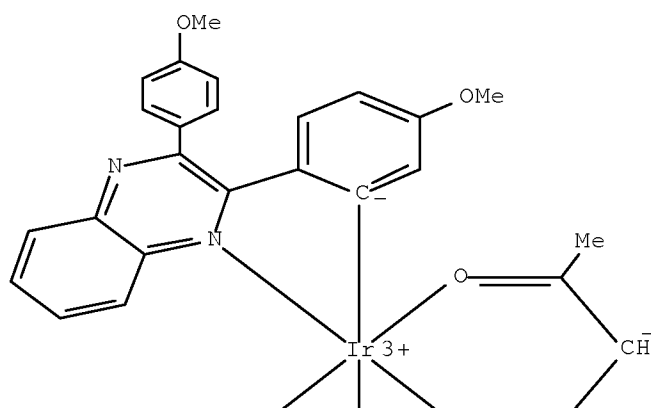


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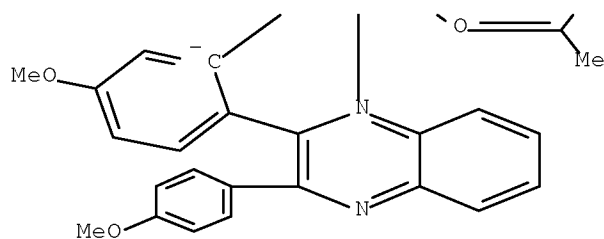


RN 863714-60-7 HCAPLUS
 CN Iridium, bis[5-methoxy-2-[3-(4-methoxyphenyl)-2-quinoxalinylnyl- κ N1]phenyl- κ C](2,4-pentanedionato- κ O, κ O')-(9CI) (CA INDEX NAME)

PAGE 1-A

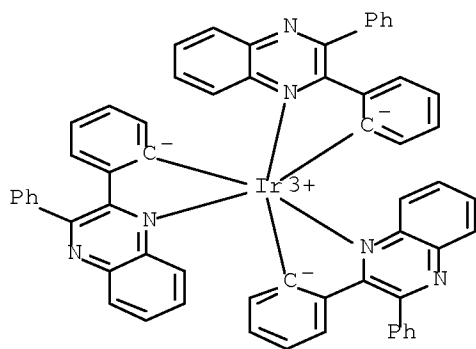


PAGE 2-A



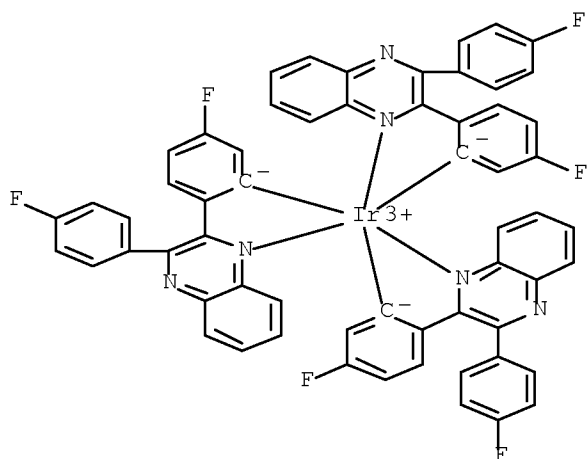
RN 863714-61-8 HCAPLUS

CN Iridium, tris[2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC]-(9CI) (CA INDEX NAME)



RN 863714-62-9 HCAPLUS

CN Iridium, tris[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxalinylyl-κN1]phenyl-κC]-(9CI) (CA INDEX NAME)

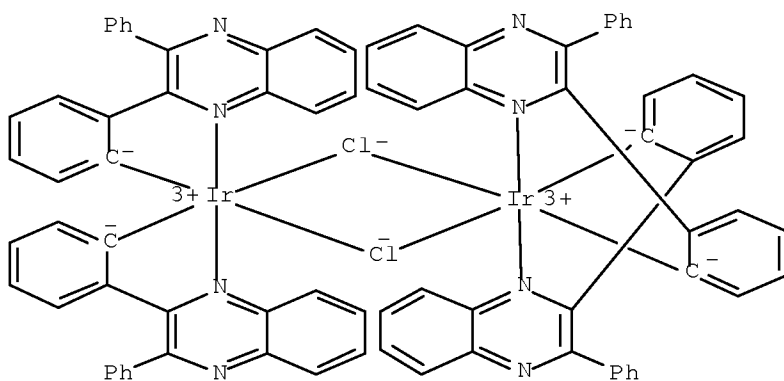


IT 848127-97-9P 848889-99-6P 863714-57-2P
863714-59-4P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(organometallic compds. containing quinoxaline structures and
light-emitting elements using them)

RN 848127-97-9 HCAPLUS

CN Iridium, di- μ -chlorotetrakis[2-(3-phenyl-2-quinoxalinylyl- κ N1)phenyl- κ C]di- (CA INDEX NAME)



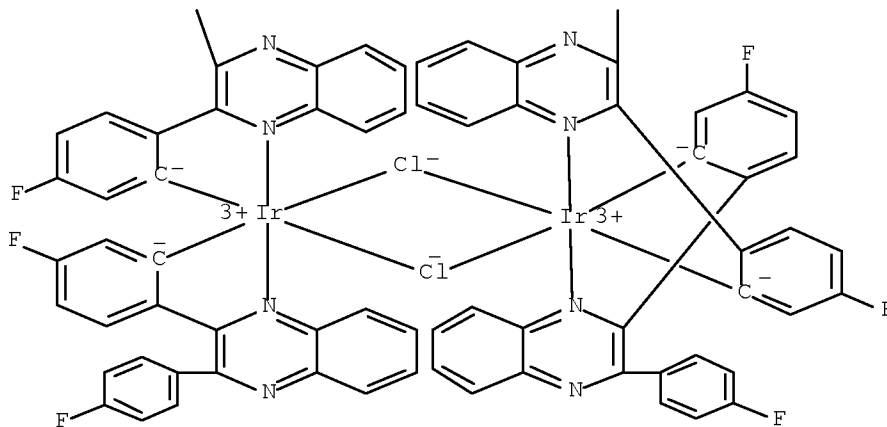
RN 848889-99-6 HCAPLUS

CN Iridium, di- μ -chlorotetrakis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxalinylyl- κ N1]phenyl- κ C]di- (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



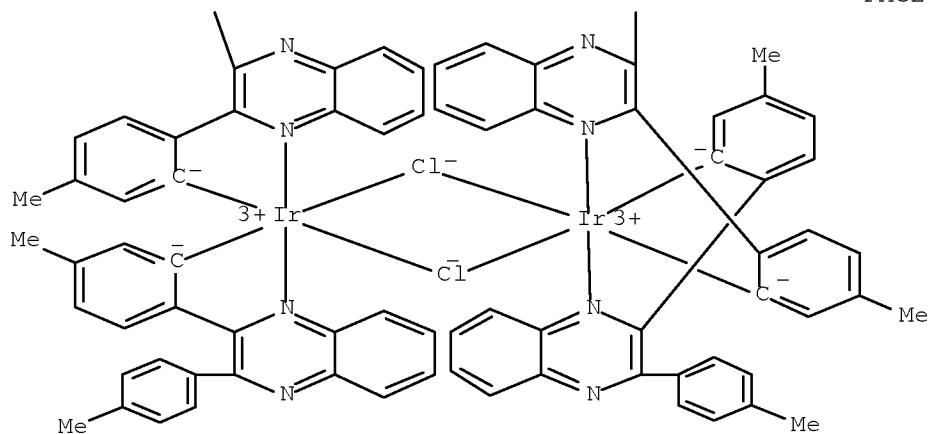
RN 863714-57-2 HCAPLUS

CN Iridium, di-μ-chlorotetrakis[5-methyl-2-[3-(4-methylphenyl)-2-quinoxalinylnyl-κN1]phenyl-κC]di- (9CI) (CA INDEX NAME)

PAGE 1-A



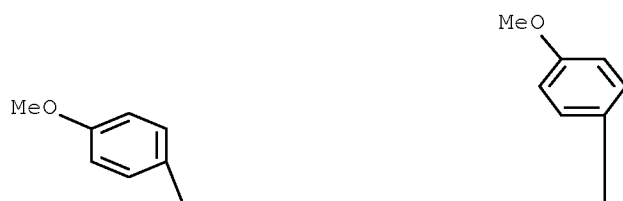
PAGE 2-A



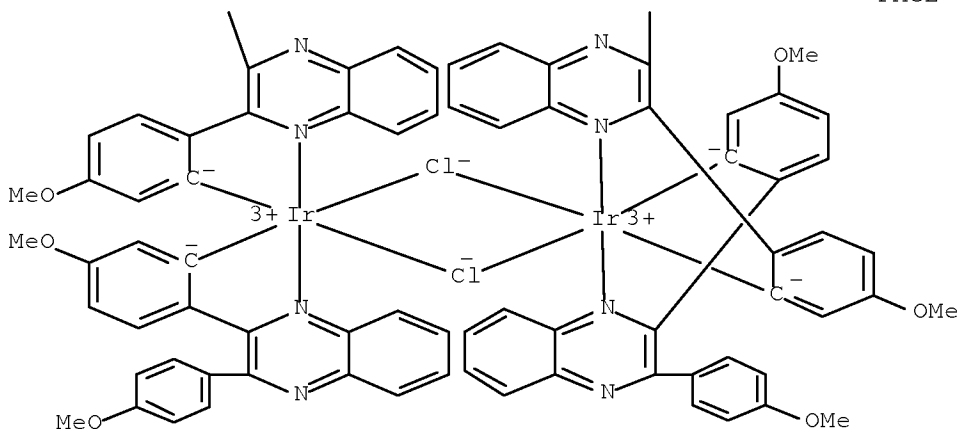
RN 863714-59-4 HCAPLUS

CN Iridium, di- μ -chlorotetrakis[5-methoxy-2-[3-(4-methoxyphenyl)-2-quinoxalyl]- κ N1]phenyl- κ C]di- (9CI) (CA INDEX NAME)

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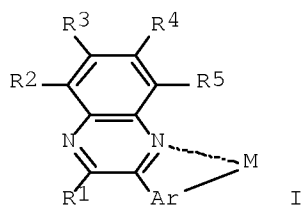
IC ICM B32B009-00
 INCL 428917000; 428690000
 CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
 Section cross-reference(s): 29, 76
 IT 848127-98-6P 853994-39-5P
 RL: DEV (Device component use); MOA (Modifier or additive use); RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent); USES (Uses)
 (organometallic compds. containing quinoxaline structures and light-emitting elements using them)
 IT 863714-58-3P 863714-60-7P 863714-61-8P 863714-62-9P
 RL: DEV (Device component use); MOA (Modifier or additive use); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (organometallic compds. containing quinoxaline structures and light-emitting elements using them)

IT 449-46-7P, 2-(4-Fluorophenyl)quinoxaline 1684-14-6P,
2,3-Diphenylquinoxaline 3719-84-4P 5021-43-2P,
2-Phenylquinoxaline 7248-16-0P, 2,3-Bis(4-
methoxyphenyl)quinoxaline 36305-53-0P 148186-43-0P
810681-91-5P 810681-92-6P 810681-93-7P 810681-94-8P
810681-95-9P 810681-96-0P 810681-97-1P 810681-98-2P
810681-99-3P 810682-00-9P 848127-97-9P
848889-99-6P 863659-74-9P 863714-57-2P
863714-59-4P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(organometallic compds. containing quinoxaline structures and
light-emitting elements using them)

L12 ANSWER 8 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2005:523471 HCAPLUS Full-text
DOCUMENT NUMBER: 143:68073
TITLE: Organic metal complex and light-emitting device
employing it
INVENTOR(S): Inoue, Hideko; Seo, Satoshi; Shitagaki, Satoko;
Abe, Hiroko
PATENT ASSIGNEE(S): Semiconductor Energy Laboratory Co., Ltd., Japan
SOURCE: PCT Int. Appl., 77 pp.
CODEN: PIXXD2
DOCUMENT TYPE: Patent
LANGUAGE: Japanese
FAMILY ACC. NUM. COUNT: 1
PATENT INFORMATION:

PATENT NO.	KIND	DATE	APPLICATION NO.	DATE
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WO 2005054261	A1	20050616	WO 2004-JP18079	200411 29
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W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW				
RW: BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM, AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IS, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG				
EP 1690866	A1	20060816	EP 2004-799935	200411 29
<--				
R: DE, FR, GB, NL, FI				
JP 3810789	B2	20060816	JP 2005-516006	200411 29
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CN 1890255	A	20070103	CN 2004-80035633	200411 29

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US 20050242715	A1	20051103	US 2004-23043	20041228
			<--	
US 7238806	B2	20070703		
US 20070213527	A1	20070913	US 2007-797532	20070504
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PRIORITY APPLN. INFO.:			JP 2003-403822	A 20031202
			<--	
			WO 2004-JP18079	W 20041129
			<--	
			US 2004-23043	A3 20041228
			<--	
OTHER SOURCE(S):		MARPAT 143:68073		
GI				



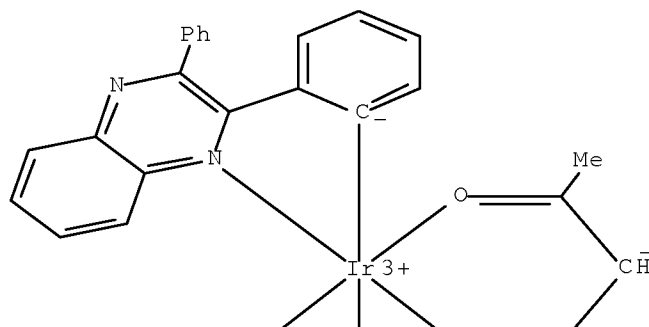
AB An organic metal complex is characterized by having a structure represented by the general formula (I) below. In the formula, R¹-R⁵ resp. represent a hydrogen atom, a halogen element, an acyl group, an alkyl group, an alkoxyl group, an aryl group, a cyano group or a heterocyclic residue; Ar represents an aryl group having an electron-withdrawing substituent or a heterocyclic residue having an electron-withdrawing substituent; and M represents a group IX element or a group X element.

IT 848127-98-0P 853994-39-5P
 RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
 (organic metal complex and light-emitting device employing it)

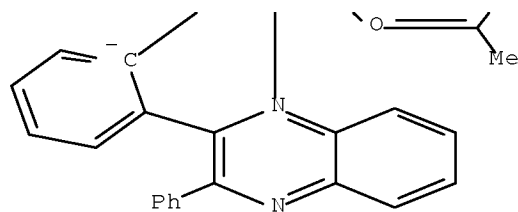
RN 848127-98-0 HCAPLUS

CN Iridium, (2,4-pentanedionato-κO,κO')bis[2-(3-phenyl-2-quinoxalinylnyl-κN1)phenyl-κC]- (9CI) (CA INDEX NAME)

PAGE 1-A

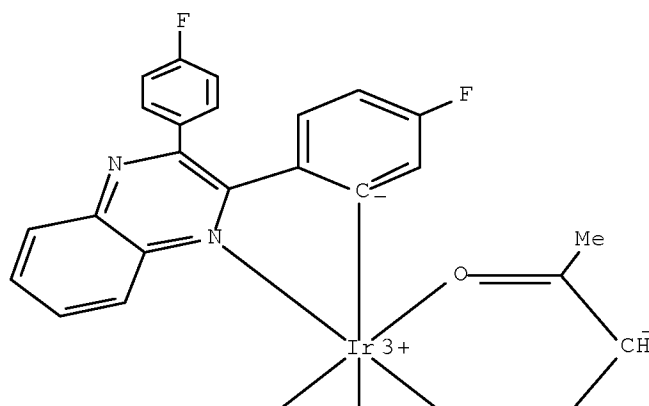


PAGE 2-A

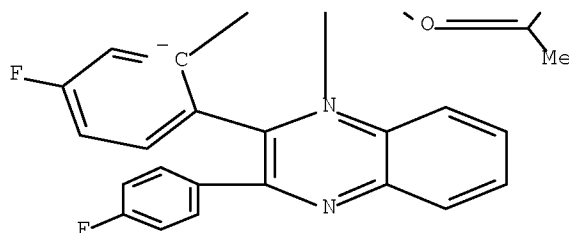


RN 853994-39-5 HCAPLUS
 CN Iridium, bis[5-fluoro-2-[3-(4-fluorophenyl)-2-quinoxalinylnyl-
 κN1]phenyl-κC] (2,4-pentanedionato-κO2,κO4)-
 (CA INDEX NAME)

PAGE 1-A



PAGE 2-A



IC ICM C07F015-00
ICS C09K011-06; H05B033-14
CC 73-11 (Optical, Electron, and Mass Spectroscopy and Other Related Properties)
Section cross-reference(s): 29
IT 848127-98-0P 853994-39-5P
RL: DEV (Device component use); PRP (Properties); SPN (Synthetic preparation); PREP (Preparation); USES (Uses)
(organic metal complex and light-emitting device employing it)
REFERENCE COUNT: 4 THERE ARE 4 CITED REFERENCES AVAILABLE FOR THIS RECORD. ALL CITATIONS AVAILABLE IN THE RE FORMAT

L12 ANSWER 9 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 2004:1044364 HCAPLUS Full-text
DOCUMENT NUMBER: 142:316925
TITLE: Synthesis and photoluminescence of a new red phosphorescent iridium(III) quinoxaline complex
AUTHOR(S): Zhang, Guo Lin; Liu, Ze Hua; Guo, Hai Qing
CORPORATE SOURCE: State Key Laboratory of Rare Earth Materials Chemistry and Applications, College of Chemistry and Molecular Engineering, Peking University, Beijing, 100871, Peop. Rep. China

August 4, 2008

10/590,703

44

SOURCE: Chinese Chemical Letters (2004),
15(11), 1349-1352
CODEN: CCLEE7; ISSN: 1001-8417
PUBLISHER: Chinese Chemical Society
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 142:316925

AB A new cyclometalated iridium(III) complex with the formula $[\text{Ir}(\text{DPQ})_2(\text{acac})]$ (DPQ = 2,3-diphenylquinoxaline; acac = acetylacetonate) was prepared. The structure of the complex was confirmed by elemental anal. (EA), ^1H NMR, and mass spectroscopy (MS). The UV-vis absorption and photoluminescent properties of the complex were investigated.

IT 848127-98-0P

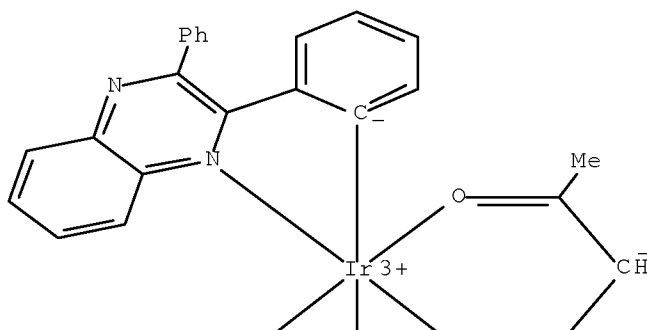
RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(synthesis and photoluminescence of cyclometalated diphenylquinoxaline iridium acetylacetonate complex)

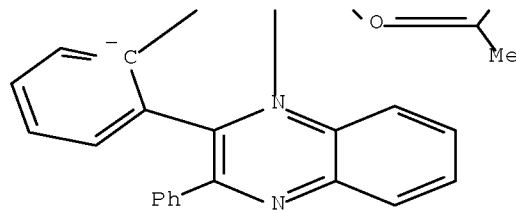
RN 848127-98-0 HCAPLUS

CN Iridium, (2,4-pentanedionato- $\kappa\text{O}, \kappa\text{O}'$)bis[2-(3-phenyl-2-quinoxaliny)- κN1 phenyl- κC]- (9CI) (CA INDEX NAME)

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PAGE 2-A



IT 848127-97-9P

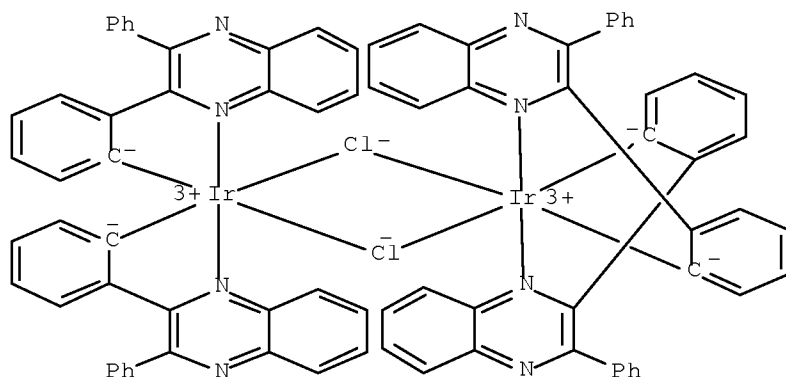
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);

RACT (Reactant or reagent)

(synthesis and photoluminescence of cyclometalated
diphenylquinoxaline iridium acetylacetonate complex)

RN 848127-97-9 HCAPLUS

CN Iridium, di- μ -chlorotetrakis[2-(3-phenyl-2-quinoxalinylyl-
 κ N1)phenyl- κ C]di- (CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 73

IT 848127-98-0P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(synthesis and photoluminescence of cyclometalated
diphenylquinoxaline iridium acetylacetonate complex)

IT 1684-14-6P, 2,3-Diphenylquinoxaline 848127-97-9P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(synthesis and photoluminescence of cyclometalated
diphenylquinoxaline iridium acetylacetonate complex)

REFERENCE COUNT: 9 THERE ARE 9 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L12 ANSWER 10 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:614376 HCAPLUS Full-text

DOCUMENT NUMBER: 133:321984

TITLE: Effects of the nature of the ligand environment
and metal center on the optical and
electrochemical properties of platinum(II) and
palladium(II) ethylenediamine complexes with
heterocyclic cyclometalated ligands

AUTHOR(S): Kulikova, M. V.; Balashev, K. P.; Kvam, P.-I.;
Songstad, J.

CORPORATE SOURCE: Gertzen Russian State Pedagogical University,
St. Petersburg, Russia

SOURCE: Russian Journal of General Chemistry
(Translation of Zhurnal Obshchei Khimii) (2000), 70(2), 163-170

CODEN: RJGCEK; ISSN: 1070-3632

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

AB Mixed-ligand cyclometalated complexes $[M(C.cxa.N)en]^+$ ($M = Pt(II), Pd(II)$); C.cxa.N is a cyclometalating ligand on the basis of 2-(2'-thienyl)pyridine, 2-phenylpyridine, 2,6-diphenylpyridine, 2,3-diphenylpyrazine, 2,3-diphenylquinoxaline, and benzo(h)quinoline; en = ethylenediamine) were synthesized and characterized by 1H and ^{13}C NMR, electron absorption and emission spectroscopy, and cyclic voltammetry. It was found that the LUMO is predominantly localized in the "N-imine" part of the (C.cxa.N) ligand and that the optical and electrochem. properties of the complexes are very sensitive to changes in this part of the ligand. "Mild" structural changes in the (C.cxa.N) ligands (introduction of various substituents) produce no such effect. The increase in the energy of the lowest excited state and the anodic shifts of the oxidation potentials of the complexes in going from palladium to platinum are explained in terms of enhanced stabilization of palladium 4d orbitals as compared to platinum 5d orbitals.

IT 303045-45-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP (Preparation)

(crystal structure; effects of nature of ligand environment and metal center on optical and electrochem. properties of platinum and palladium ethylenediamine complexes with heterocyclic cyclometalated ligands)

RN 303045-45-6 HCAPLUS

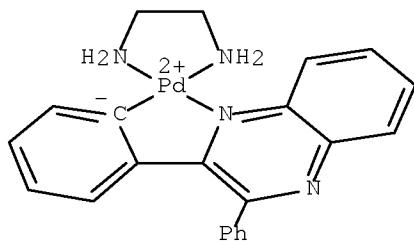
CN Palladium(1+), (1,2-ethanediamine- $\kappa N, \kappa N'$)[2-(3-phenyl-2-quinoxaliny1- $\kappa N1$)phenyl- κC]-, (SP-4-2)-, chloride, compd. with methanol (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 266352-74-3

CMF C22 H21 N4 Pd . Cl

CCI CCS



● Cl⁻

CM 2

CRN 67-56-1

CMF C H4 O

H₃C—OH

IT 266352-76-5P 303045-40-1P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(effects of nature of ligand environment and metal center on
optical and electrochem. properties of platinum and palladium
ethylenediamine complexes with heterocyclic cyclometalated
ligands)

RN 266352-76-5 HCAPLUS

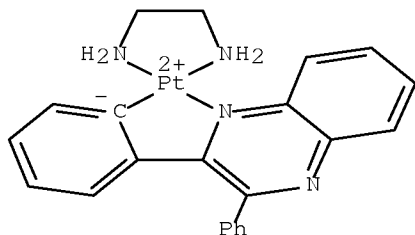
CN Platinum(1+), (1,2-ethanediamine-κN,κN') [2-(3-phenyl-2-
quinoxaliny1-κN1)phenyl-κC]-, (SP-4-2)-, perchlorate
(9CI) (CA INDEX NAME)

CM 1

CRN 266352-75-4

CMF C22 H21 N4 Pt

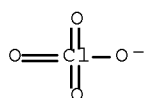
CCI CCS



CM 2

CRN 14797-73-0

CMF Cl O4



RN 303045-40-1 HCAPLUS

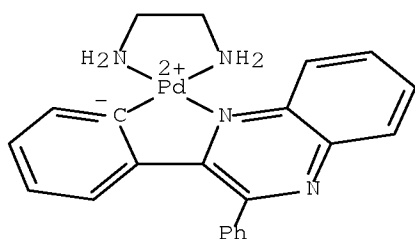
CN Palladium(1+), (1,2-ethanediamine-κN,κN') [2-(3-phenyl-2-
quinoxaliny1-κN1)phenyl-κC]-, (SP-4-2)-, perchlorate
(9CI) (CA INDEX NAME)

CM 1

CRN 303045-39-8

CMF C22 H21 N4 Pd

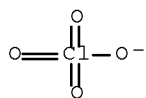
CCI CCS



CM 2

CRN 14797-73-0

CMF Cl O4



CC 29-13 (Organometallic and Organometalloidal Compounds)

Section cross-reference(s): 72

IT 303045-45-6P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(crystal structure; effects of nature of ligand environment and metal center on optical and electrochem. properties of platinum and palladium ethylenediamine complexes with heterocyclic cyclometalated ligands)

IT 164533-54-4P 167647-75-8P 223732-46-5P 223732-48-7P

255837-37-7P 266352-76-5P 303045-26-3P 303045-34-3P

303045-36-5P 303045-40-1P 303045-42-3P 303045-44-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(effects of nature of ligand environment and metal center on optical and electrochem. properties of platinum and palladium ethylenediamine complexes with heterocyclic cyclometalated ligands)

REFERENCE COUNT: 13 THERE ARE 13 CITED REFERENCES AVAILABLE
FOR THIS RECORD. ALL CITATIONS AVAILABLE
IN THE RE FORMAT

L12 ANSWER 11 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:211471 HCAPLUS Full-text

DOCUMENT NUMBER: 132:321975

TITLE: Synthesis and properties of palladium(II) and
platinum(II) (2,3-diphenylquinoxalinato-
C,N)ethylenediamine complexesAUTHOR(S): Balashev, K. P.; Kulikova, M. V.; Kvam, P.-I.;
Songstad, J.CORPORATE SOURCE: Gertzen Russian State Pedagogical University,
St. Petersburg, RussiaSOURCE: Russian Journal of General Chemistry
(Translation of Zhurnal Obshchei Khimii) (

1999), 69(8), 1348-1349

CODEN: RJGCEK; ISSN: 1070-3632

PUBLISHER: MAIK Nauka/Interperiodica Publishing

DOCUMENT TYPE: Journal

LANGUAGE: English

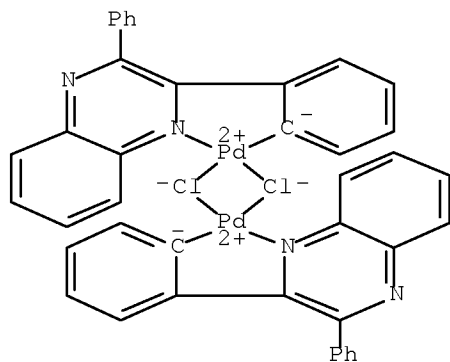
AB Palladium(II) and platinum(II) diphenylquinoxalinato complexes, $[M(C-N)Cl]_2$ (I; $M = Pt, Pd$, $C-N$ = deprotonated form of 2,3-diphenylquinoxaline) underwent ligand substitution reaction with ethylenediamine (en) to give $[M(C-N)(en)]X$ ($M = Pd$, $X = Cl$; $M = Pt$, $X = ClO_4$, resp.). I ($M = Pt$) was prepared from $[PtCl_4][NBu_4]$ and $HC-N$ in CH_2Cl_2 at 50° .

IT 266352-77-6

RL: RCT (Reactant); RACT (Reactant or reagent)
(ligand substitution reaction with ethylenediamine)

RN 266352-77-6 HCAPLUS

CN Palladium, di- μ -chlorobis[2-(3-phenyl-2-quinoxalinyl- $\kappa N1$)phenyl- κC]di- (9CI) (CA INDEX NAME)

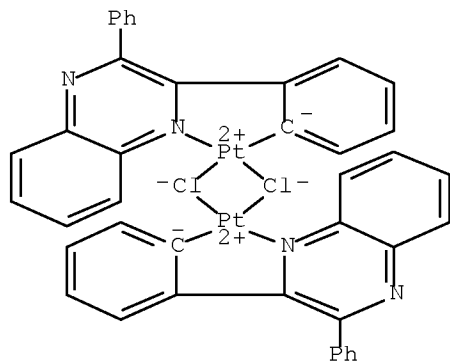


IT 266352-78-7P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation and ligand substitution reaction with ethylenediamine)

RN 266352-78-7 HCAPLUS

CN Platinum, di- μ -chlorobis[2-(3-phenyl-2-quinoxalinyl- $\kappa N1$)phenyl- κC]di- (9CI) (CA INDEX NAME)



IT 266352-74-3P 266352-76-5P

August 4, 2008

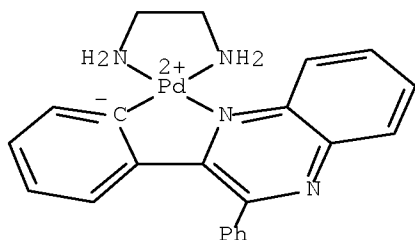
10/590,703

50

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 266352-74-3 HCAPLUS

CN Palladium(1+), (1,2-ethanediamine- κ N, κ N') [2-(3-phenyl-2-
quinoxaliny1- κ N1)phenyl- κ C]-, chloride, (SP-4-2)- (9CI)
(CA INDEX NAME)



RN 266352-76-5 HCAPLUS

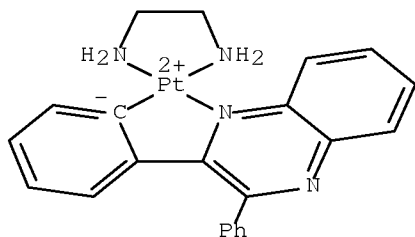
CN Platinum(1+), (1,2-ethanediamine- κ N, κ N') [2-(3-phenyl-2-
quinoxaliny1- κ N1)phenyl- κ C]-, (SP-4-2)-, perchlorate
(9CI) (CA INDEX NAME)

CM 1

CRN 266352-75-4

CMF C22 H21 N4 Pt

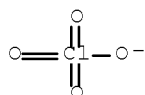
CCI CCS



CM 2

CRN 14797-73-0

CMF Cl O4



CC 29-13 (Organometallic and Organometalloidal Compounds)
IT 266352-77-6
RL: RCT (Reactant); RACT (Reactant or reagent)
(ligand substitution reaction with ethylenediamine)
IT 266352-78-7P
RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation and ligand substitution reaction with ethylenediamine)
IT 266352-74-3P 266352-76-5P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

REFERENCE COUNT: 6 THERE ARE 6 CITED REFERENCES AVAILABLE FOR
THIS RECORD. ALL CITATIONS AVAILABLE IN
THE RE FORMAT

L12 ANSWER 12 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 2000:200721 HCAPLUS Full-text

DOCUMENT NUMBER: 133:4789

TITLE: Bromination and nitration reactions of
metallated (Ru and Os) multiaromatic ligands and
crystal structures of selected products

AUTHOR(S): Clark, Alex M.; Rickard, Clifton E. F.; Roper,
Warren R.; Wright, L. James

CORPORATE SOURCE: Department of Chemistry, The University of
Auckland, Auckland, 92019, N. Z.

SOURCE: Journal of Organometallic Chemistry (
2000), 598(2), j262-275

CODEN: JORCAI; ISSN: 0022-328X

PUBLISHER: Elsevier Science S.A.

DOCUMENT TYPE: Journal

LANGUAGE: English

OTHER SOURCE(S): CASREACT 133:4789

AB Three N-containing aromatic heterocycles, 2-(1'-naphthyl)pyridine, 2-phenylquinoline, and 2,3-diphenylquinoxaline, were mercurated in the naphthyl or Ph ring 2-position and then symmetrized to form the Hg compds. Ar₂Hg (Ar = Nppy (3), Phqn (1) or Dpqx (5), resp.). These reagents are suitable for trans-metalation and reaction with MHC1(CO)(PPh₃)₃ affords the complexes M(η²-C,N-Ar)Cl(CO)(PPh₃)₂, (6, M = Ru, Ar = Nppy; 7, M = Os, Ar = Nppy; 8, M = Ru, Ar = Phqn; 9, M = Os, Ar = Phqn; 10, M = Ru, Ar = Dpqx; 11, M = Os, Ar = Dpqx) in which each product features an aryl ligand that forms a strongly chelated five-membered ring through coordination of the heterocyclic N atom. The chloride ligand in each of the complexes 6-11 can be replaced by di-Me dithiocarbamate to give ultimately the mono-PPh₃ complexes, M(η²-Ar)(η²-S₂CNMe₂)(CO)(PPh₃) (12, M = Ru, Ar = Nppy; 13, M = Os, Ar = Nppy; 14, M = Ru, Ar = Phqn; 15, M = Os, Ar = Phqn; 16, M = Ru, Ar = Dpqx; 17, M = Os, Ar = Dpqx). Similarly, compound 10 when treated with Na(acac) gives Ru(η²-Dpqx)(η²-acac)(CO)(PPh₃) (18), while treatment with HO₂CCF₃ gives Ru(η²-Dpqx)(O₂CCF₃)(CO)(PPh₃)₂ (19). Many of these complexes are very robust, making them suitable for electrophilic aromatic substitution reactions under harsh conditions. In each case, the presence of the metal had both an activating and a directing effect on the aryl ring to which it was bonded. Bromination or nitration reactions, both of which are not normally possible with organometallic substrates, were carried out successfully, giving rise to monobrominated or dinitrated products, resp. The following compds. were characterized, M(η²-Ar-4-Br)Cl(CO)(PPh₃)₂ (20, M = Ru, Ar = Phqn; 21, M = Os, Ar = Phqn; 22, M = Ru, Ar = Dpqx; 24, M = Os, Ar = Dpqx), M(η²-Dpqx-4-Br)(η²-S₂CNMe₂)(CO)(PPh₃) (23, M = Ru; 25, M = Os), Os(η²-Ar)Cl(CO)(PPh₃)₂ (26, Ar =

Nppy-6,8-(NO₂)₂; 27, Ar = Phqn-4,6-(NO₂)₂). Crystal structures of compds. 7, 12, 15, 18, 19, 21, 23 and 25 were determined

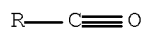
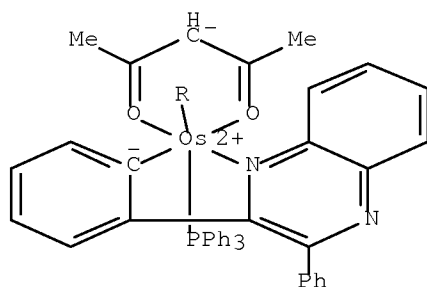
IT 270252-38-5P 270252-39-6P 270252-44-3P
270252-46-5P

RL: PRP (Properties); SPN (Synthetic preparation); PREP
(Preparation)

(preparation and crystal structure of)

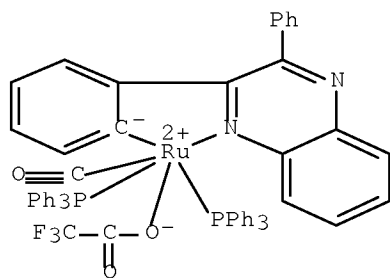
RN 270252-38-5 HCAPLUS

CN Osmium, carbonyl(2,4-pentanedionato-κO,κO') [2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC] (triphenylphosphine)-,
(OC-6-25)- (9CI) (CA INDEX NAME)



RN 270252-39-6 HCAPLUS

CN Ruthenium, carbonyl[2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC] (trifluoroacetato-κO) bis(triphenylphosphine)-,
(OC-6-15)- (9CI) (CA INDEX NAME)



RN 270252-44-3 HCAPLUS

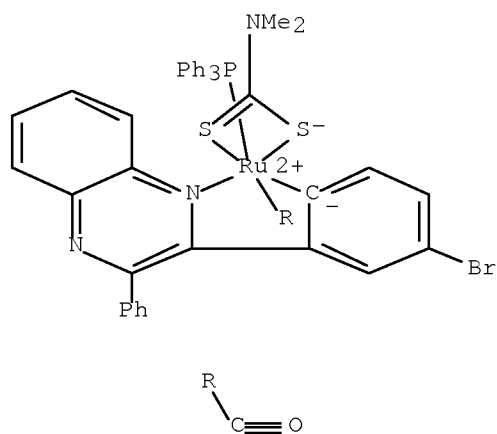
CN Ruthenium, [4-bromo-2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC] carbonyl(dimethylcarbamodithioato-κS,κS') (triphenylphosphine)-, (OC-6-52)-, compd. with
dichloromethane (1:1) (9CI) (CA INDEX NAME)

CM 1

CRN 270252-43-2

CMF C42 H33 Br N3 O P Ru S2

CCI CCS



CM 2

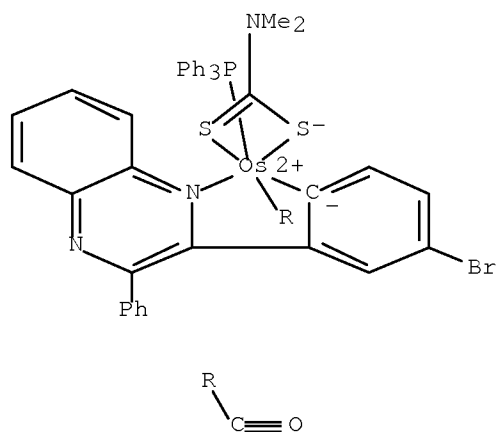
CRN 75-09-2

CMF C H2 C12

Cl-CH₂-Cl

RN 270252-46-5 HCAPLUS

CN Osmium, [4-bromo-2-(3-phenyl-2-quinoxalinyloxy)phenyl-
κC]carbonyl(dimethylcarbamodithioato-
κS,κS')(triphenylphosphine)-, (OC-6-52)- (9CI) (CA
INDEX NAME)



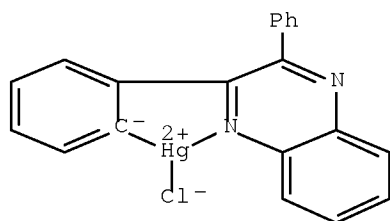
IT 270252-21-6P, (2-(3-Phenyl-2-quinoxalinyloxy)phenyl)mercury
chloride

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)

(preparation and symmetrization of)

RN 270252-21-6 HCAPLUS

CN Mercury, chloro[2-(3-phenyl-2-quinoxaliny1-κN1)phenyl-κC]- (9CI) (CA INDEX NAME)



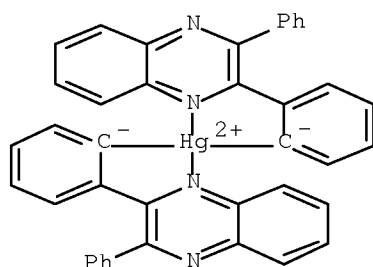
IT 270252-22-7P, Bis(2-(3-phenyl-2-quinoxaliny1)phenyl)mercury

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation); RACT (Reactant or reagent)

(preparation and transmetalation with osmium and ruthenium complexes)

RN 270252-22-7 HCAPLUS

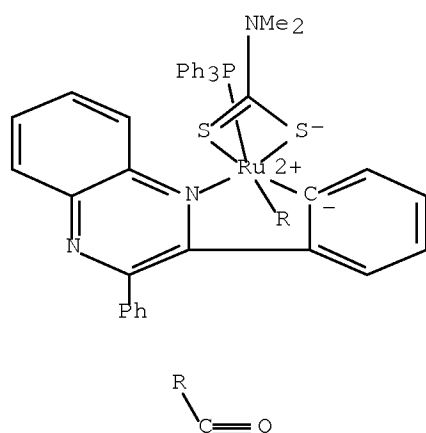
CN Mercury, bis[2-(3-phenyl-2-quinoxaliny1-κN1)phenyl-κC]- (9CI) (CA INDEX NAME)

IT 270252-36-3P 270252-37-4P 270252-42-1P
270252-45-4P

RL: SPN (Synthetic preparation); PREP (Preparation) (preparation of)

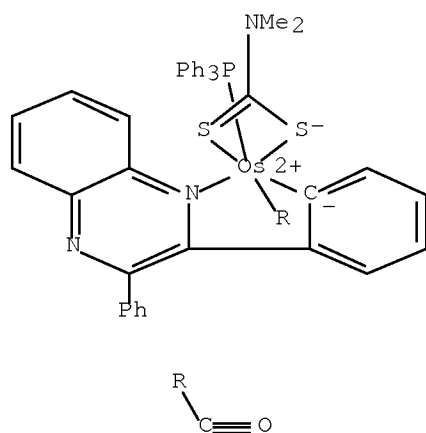
RN 270252-36-3 HCAPLUS

CN Ruthenium, carbonyl(dimethylcarbamodithioato-κS,κS')[2-(3-phenyl-2-quinoxaliny1-κN1)phenyl-κC](triphenylphosphine)-, (OC-6-52)- (9CI) (CA INDEX NAME)



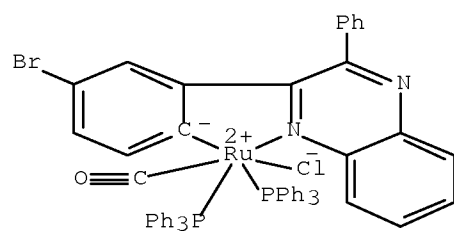
RN 270252-37-4 HCAPLUS

CN Osmium, carbonyl(dimethylcarbamodithioato-κS,κS') [2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC] (triphenylphosphine)-, (OC-6-52)- (9CI) (CA INDEX NAME)



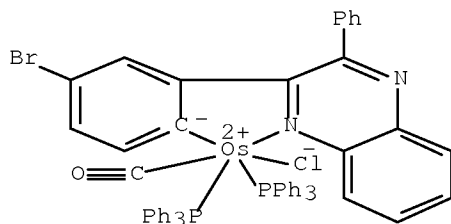
RN 270252-42-1 HCAPLUS

CN Ruthenium, [4-bromo-2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC]carbonylchlorobis(triphenylphosphine)-, (OC-6-52)- (9CI) (CA INDEX NAME)



RN 270252-45-4 HCAPLUS

CN Osmium, [4-bromo-2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC]carbonylchlorobis(triphenylphosphine)-, (OC-6-52)- (9CI)
(CA INDEX NAME)

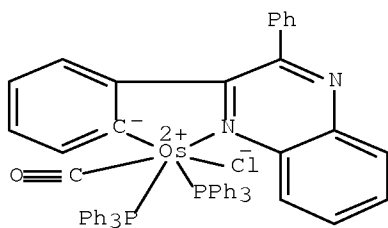


IT 270252-28-3P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation, coordinative metathesis with dithiocarbamate and ligand
bromination)

RN 270252-28-3 HCAPLUS

CN Osmium, carbonylchloro[2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC]bis(triphenylphosphine)-, (OC-6-52)- (9CI) (CA INDEX NAME)

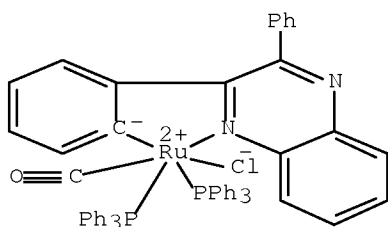


IT 270252-27-2P

RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
RACT (Reactant or reagent)
(preparation, coordinative metathesis with dithiocarbamate,
coordinative condensation reactions with acetylacetone and
trifluoroacetic acid and ligand bromination)

RN 270252-27-2 HCAPLUS

CN Ruthenium, carbonylchloro[2-(3-phenyl-2-quinoxalinylyl-κN1)phenyl-κC]bis(triphenylphosphine)-, (OC-6-52)- (9CI)
(CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)
 Section cross-reference(s): 75

IT 270252-29-4P 270252-34-1P 270252-38-5P
 270252-39-6P 270252-44-3P 270252-46-5P
 270252-49-8P
 RL: PRP (Properties); SPN (Synthetic preparation); PREP
 (Preparation)
 (preparation and crystal structure of)

IT 119399-90-5P, 2-(2-Quinoliny)phenylmercury chloride 270252-19-2P,
 1-(2-Pyridinyl)-2-naphthylmercury chloride 270252-21-6P,
 (2-(3-Phenyl-2-quinoxaliny)phenyl)mercury chloride
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation and symmetrization of)

IT 270252-18-1P, Bis(2-(2-quinoliny)phenyl)mercury 270252-20-5P,
 Bis(1-(2-pyridinyl)-2-naphthyl)mercury 270252-22-7P,
 Bis(2-(3-phenyl-2-quinoxaliny)phenyl)mercury
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation and transmetalation with osmium and ruthenium complexes)

IT 270252-30-7P 270252-31-8P 270252-36-3P
 270252-37-4P 270252-40-9P 270252-42-1P
 270252-45-4P 270252-47-6P 270252-48-7P
 RL: SPN (Synthetic preparation); PREP (Preparation)
 (preparation of)

IT 270252-25-0P 270252-28-3P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation, coordinative metathesis with dithiocarbamate and ligand
 bromination)

IT 270252-27-2P
 RL: RCT (Reactant); SPN (Synthetic preparation); PREP (Preparation);
 RACT (Reactant or reagent)
 (preparation, coordinative metathesis with dithiocarbamate,
 coordinative condensation reactions with acetylacetone and
 trifluoroacetic acid and ligand bromination)

REFERENCE COUNT: 30 THERE ARE 30 CITED REFERENCES AVAILABLE
 FOR THIS RECORD. ALL CITATIONS AVAILABLE
 IN THE RE FORMAT

L12 ANSWER 13 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN

ACCESSION NUMBER: 1991:62321 HCAPLUS Full-text

DOCUMENT NUMBER: 114:62321

ORIGINAL REFERENCE NO.: 114:10698h,10699a

TITLE: Cyclometalated compounds. V. Double
 cyclopalladation of diphenylpyrazines and
 related ligands

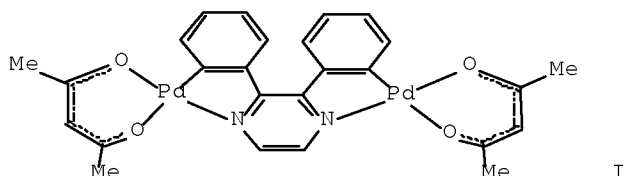
AUTHOR(S): Steel, Peter J.; Caygill, Graham B.

August 4, 2008

10/590,703

58

CORPORATE SOURCE: Chem. Dep., Univ. Canterbury, Christchurch, N.
Z.
SOURCE: Journal of Organometallic Chemistry (
1990), 395(3), 359-73
CODEN: JORCAI; ISSN: 0022-328X
DOCUMENT TYPE: Journal
LANGUAGE: English
OTHER SOURCE(S): CASREACT 114:62321
GI



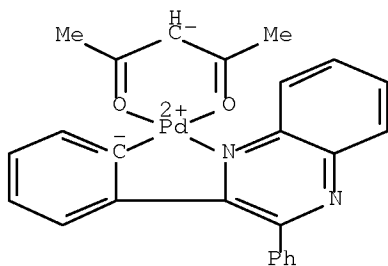
AB 2,3-Diphenylpyrazine and 4 structurally related ligands have each been singly and doubly cyclopalladated and the products characterized by ¹H and ¹³C NMR studies of their acetylacetonate complexes. The structure of a doubly cyclometalated Pd(acac) complex (I) of 2,3-diphenylpyrazine has been determined by an x-ray diffraction study. A strong steric interaction between the 2 cyclopalladated Ph rings is relieved by twisting; the 2 chelate ring mean-planes are mutually inclined at an angle of 19.6(5)°.

IT 131259-91-1F

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

RN 131259-91-1 HCAPLUS

CN Palladium, (2,4-pentanedionato-O,O') [2-(3-phenyl-2-
quinoxaliny)phenyl]-, (SP-4-3)- (9CI) (CA INDEX NAME)



CC 29-13 (Organometallic and Organometalloidal Compounds)
Section cross-reference(s): 75

IT 131259-88-6P 131259-90-0P 131259-91-1F 131259-92-2P
131259-93-3P 131259-94-4P 131259-95-5P 131259-96-6P
131259-97-7P 131612-44-7P

RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

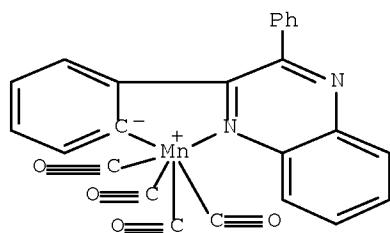
L12 ANSWER 14 OF 14 HCAPLUS COPYRIGHT 2008 ACS on STN
ACCESSION NUMBER: 1975:579265 HCAPLUS Full-text
DOCUMENT NUMBER: 83:179265

August 4, 2008

10/590,703

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ORIGINAL REFERENCE NO.: 83:28161a,28164a
TITLE: Cyclometallation reactions. XIII. Reactions of
phenyl-substituted heterocyclic nitrogen-donor
ligands
AUTHOR(S): Bruce, Michael I.; Goodall, Brian L.; Matsuda,
Isamu
CORPORATE SOURCE: Dep. Inorg. Chem., Univ. Bristol, Bristol, UK
SOURCE: Australian Journal of Chemistry (1975
, 28(6), 1259-64
CODEN: AJCHAS; ISSN: 0004-9425
DOCUMENT TYPE: Journal
LANGUAGE: English
GI For diagram(s), see printed CA Issue.
AB The preparation of metalated complexes of Mn or Re derived from 2-
phenylpyridine, 1,4-diphenylquinoxaline, 1-phenylpyrazole, 4-phenylpyrimidine,
1,4-diphenylphthalazine and 2,5-diphenyloxazole is described. Thus, heating
2-phenylpyridine with $\text{MnMe}(\text{CO})_5$ gave I.
IT 57522-13-1P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)
RN 57522-13-1 HCAPLUS
CN Manganese, tetracarbonyl[2-(3-phenyl-2-quinoxaliny)phenyl]-,
(OC-6-23)- (9CI) (CA INDEX NAME)



CC 29-11 (Organometallic and Organometalloidal Compounds)
IT 39046-05-4P 57522-10-8P 57522-11-9P 57522-12-0P
57522-13-1P 57522-14-2P 57522-15-3P 57522-16-4P
57539-32-9P 57583-97-8P 57593-72-3P 57607-62-2P
RL: SPN (Synthetic preparation); PREP (Preparation)
(preparation of)

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